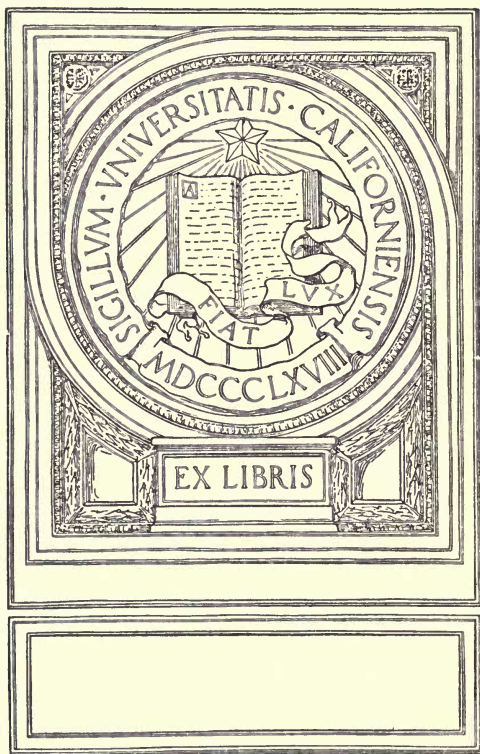


UC-NRLF



B 4 264 995







mar  
DEARBORN FOUNDRY COMPANY,

1525 DEARBORN STREET,

CHICAGO, ILL.

ERASTUS FOOTE, JR., Pres.

E. T. CUSHING, Sec'y and Treas.

# POCKET COMPANION

OF

USEFUL INFORMATION AND TABLES

PERTAINING TO THE USE OF

# Cast<sup>AND</sup> Wrought Iron Work

Illustrating Various Designs of

## ARCHITECTURAL IRON WORK

FOR

*Engineers, Architects and Builders.*

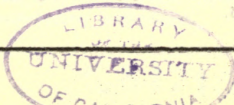
COMPILED BY THOMAS SMITH.

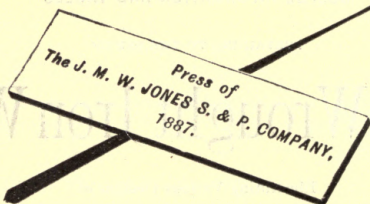
A Large Assortment of Wrought Iron  $\Gamma$  Beams constantly on hand;  
also, can furnish Steel Beams promptly.

1887.

ELECTROTYPED,

COPYRIGHTED.





**CAUTION.**

Do not mutilate this Book by cutting out any of the various cuts you wish to use, but simply order by number or letter below the design required.

## DEARBORN FOUNDRY COMPANY,

1525 Dearborn Street,

Chicago, Illinois.

### PREFACE.

On the following pages we have endeavored to present such a variety of Architectural Iron work, both in design and price, as will suffice to meet almost any requirement. Should, however, a design differing from any of our illustrations be desired we will be pleased to give price, which will depend upon quantity and style of work. All requests for quotations should be accompanied by an approximate bill of items, giving sizes, lengths, etc. The size of lot should be given; also state if corner or inside lot, and the purpose for which building is to be used; state number of stories, and, if possible, the thickness of walls. As it is impossible to have a price list of such a variety of work—and each building has to be estimated carefully—it is of great assistance if this information is given, and prices can be quoted much closer than upon an indefinite inquiry.

In ordering be careful in designating by letter or number as shown in the following cuts, as this will facilitate matters in getting out the work with care and promptness.

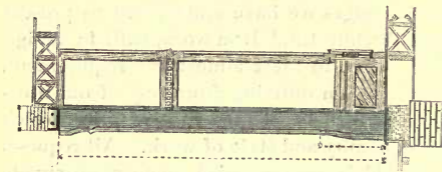
**Manufacturers of Cast and Wrought Iron Building Work, Iron Fronts, Columns, Pilasters, Lintels, Sill Plates, Cornices, Gratings, Sidewalk Columns and Lintels, Window Guards, Sash Bar, Window Caps and Sills, Wrought Iron Shutters and Doors, Iron Stairs, Balconies, Balcony Brackets, Machinery Castings, Boiler Fronts, Prismatic Lights, Lamp Posts, Bolts and Washers, Stirrups, Anchors, Castings for Packing Houses, Sugar Refineries, Smelting Works, Stone Yards, Gas Works, etc.**

**A Full Assortment of Wrought Iron I Beams kept in stock. Estimates given on STEEL BEAMS, which we are prepared to furnish promptly.**

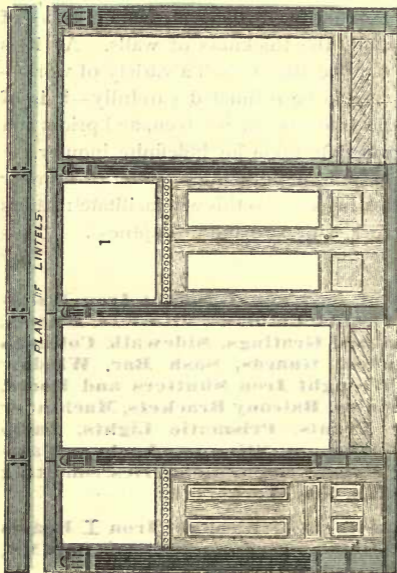
**NOTE.—Estimates will be given promptly on application. Correspondence solicited.**

DEARBORN FOUNDRY COMPANY.

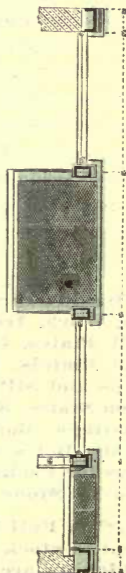
FRONT No. 1.



SECTION.



ELEVATION OF FRONT No. 1.



PLAN OF FRONT.

# DEARBORN FOUNDRY COMPANY.

## FRONT No. 1.

CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Stair Door-Sill Plate and Riser.
- 1 Store Door-Sill Plate and Riser.
- 1 Pier-Plate under Pilaster.
- 2 Pilasters for face of 12" Brick walls.
- 1 Stair-Door Column, 6" face.
- 2 Store-Door Columns, 6" face.
- 4 Lintels for 12" wall.
- Bolts for same.

## FRONT No. 1 B.

SAME AS NO. 1, EXCEPT

Pilasters are 14" face.

Lintels are 14" wide.

## FRONT No. 1 C.

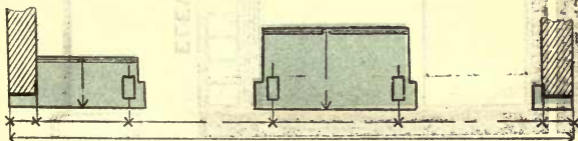
SAME AS NO. 1, EXCEPT

Pilasters are 16" face.

Lintels are 16" wide.

In ordering Iron Work for the above Fronts, give distances as shown on diagram below; also state how many stories high building is, and give thickness of front walls over Lintels.

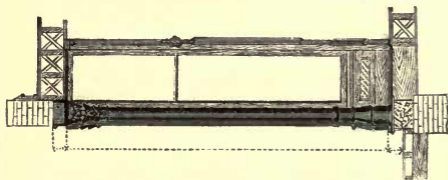
For enlarged view of Columns and Pilasters, see cut Pilaster D, page 25.



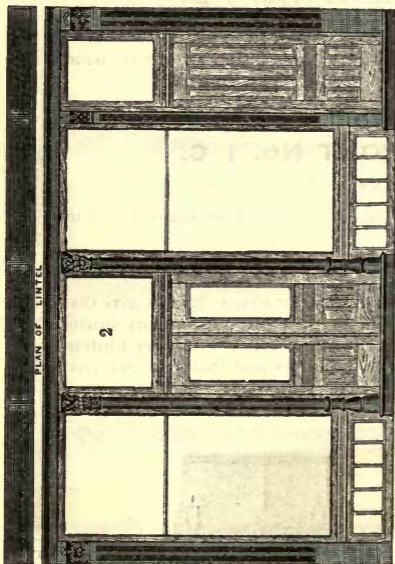
Front No. 1

DEARBORN FOUNDRY COMPANY.

FRONT No. 2.



SECTION.



ELEVATION OF FRONT No. 2.



PLAN OF FRONT.

# DEARBORN FOUNDRY COMPANY.

## FRONT No. 2.

CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Stair Door-Sill Plate and Riser.
- 1 Store Door-Sill Plate and Riser.
- 1 Pier-Plate under Pilaster.
- 2 Pilasters for face of 12" Brick walls.
- 1 Stair-Door Column, 6" face.
- 2 Store-Door Columns, three-quarter round, 6" diameter.
- 4 Lintels for 12" wall.
- Bolts for same.

## FRONT No. 2 B.

SAME AS NO. 2, EXCEPT

Pilasters are 14" face.

Lintels are 14" wide.

## FRONT No. 2 C.

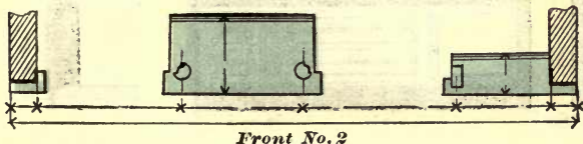
SAME AS NO. 2, EXCEPT

Pilasters are 16" face.

Lintels are 16" wide.

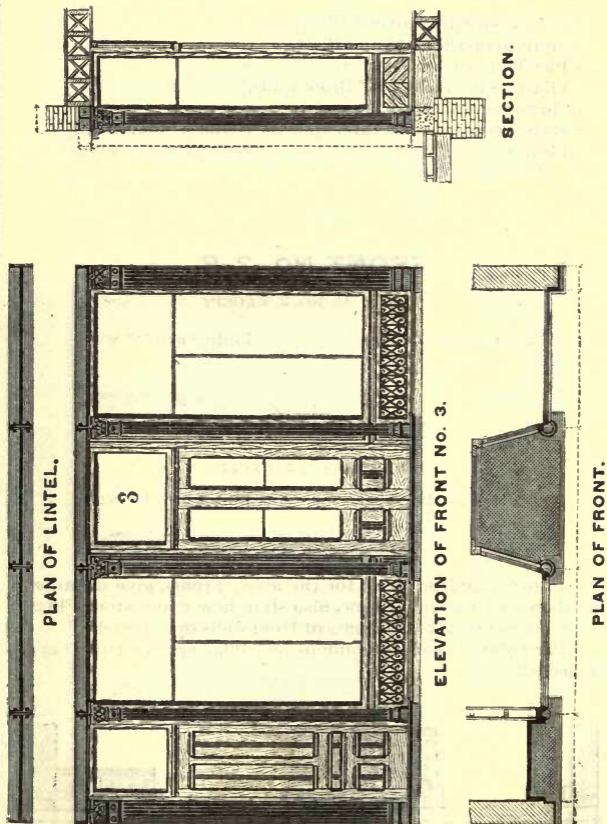
In ordering Iron Work for the above Fronts, give distances as shown on diagram below, also state how many stories high building is, and give thickness of front walls over Lintels.

For enlarged view of Columns and Pilasters, see cuts C and E, page 25.



DEARBORN FOUNDRY COMPANY.

FRONT No. 3.



# DEARBORN FOUNDRY COMPANY.

## FRONT No. 3.

CONSISTS OF THE FOLLOWING ARTICLES :

- 1 Stair Door-Sill Plate and Riser.
- 1 Store Door-Sill Plate and Riser.
- 1 Pier-Plate under Pilaster.
- 2 Pilasters for face of 12" Brick walls.
- 1 Stair-Door Column, half-round, 6" diam.
- 2 Store-Door Columns, three-quarter round, 6" diam.
- 4 Lintels (Bolts for same) for 12" wall.
- 2 Show Window Guards.

## FRONT No. 3 B.

SAME AS NO. 3, EXCEPT

Pilasters are 14" face.

Lintels are 14" wide.

## FRONT No. 3 C.

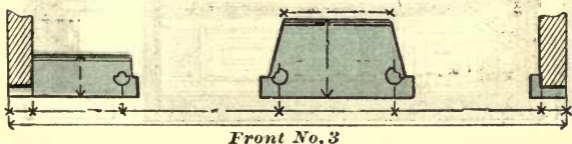
SAME AS NO. 3, EXCEPT

Pilasters are 16" face.

Lintels are 16" wide.

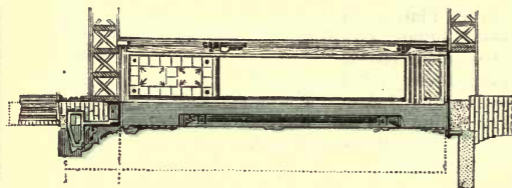
In ordering Iron Work for the above Fronts, give distances as shown on diagram below, also state how many stories high building is, and give thickness of front walls over Lintels.

For enlarged view of Columns and Pilasters, see cuts H and J, page 26.

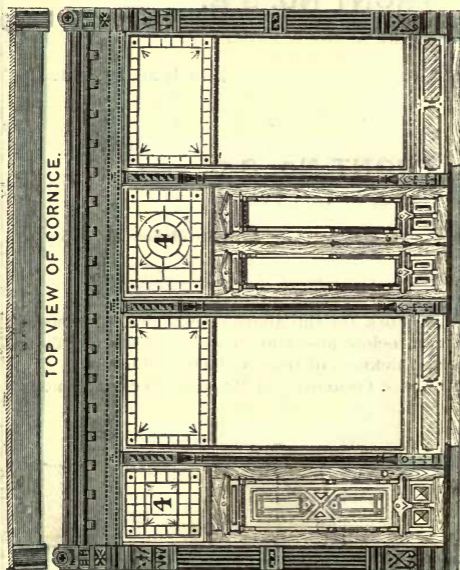


DEARBORN FOUNDRY COMPANY.

FRONT No. 4.

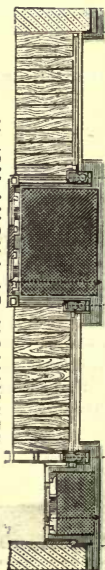


SECTION.



TOP VIEW OF CORNICE.

ELEVATION OF FRONT No. 4.



PLAN OF FRONT.

# DEARBORN FOUNDRY COMPANY.

## FRONT No. 4.

CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Stair Door-Sill Plate and Riser.
- 1 Store Door-Sill Plate and Riser.
- 1 Pier-Plate under Pilaster.
- 2 Pilasters for face of 12" Brick walls.
- 1 Stair-Door Column, 6" face.
- 2 Store-Door Columns, 6" face.
- 4 Lintels (Bolts for same) for 12" wall.
- Cornice over Columns with Buttresses over Pilasters.

## FRONT No. 4 B.

SAME AS NO. 4, EXCEPT

Pilasters are 14" face.

Lintels are 14" wide.

## FRONT No. 4 C.

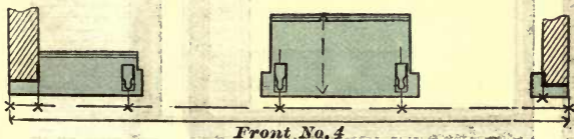
SAME AS NO. 4, EXCEPT

Pilasters are 16" face.

Lintels are 16" wide.

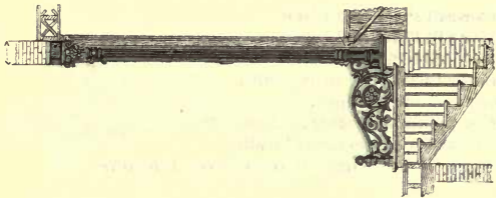
In ordering Iron Work for the above Fronts, give distances as shown on diagram below, also state how many stories high building is, and give thickness of front walls over Lintels.

For enlarged view of Columns and Pilasters, see cuts A and B, page 24.

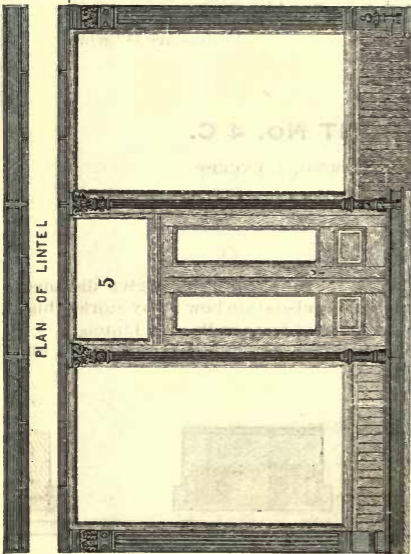


DEARBORN FOUNDRY COMPANY.

FRONT No. 5.



SECTION.



PLAN OF LINTEL

ELEVATION OF FRONT No 5



PLAN OF FRONT

# DEARBORN FOUNDRY COMPANY.

## FRONT No. 5.

CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Store Door-Sill Plate with Riser.
- 1 Show-Window Sill Plate with Riser.
- 1 Pier-Plate under Pilaster.
- 2 Pilasters for face of 12" Brick walls,
- 2 Store-Door Columns, 6" diam.
- 3 Lintels (Bolts for same) for 12" wall.
- 2 Ornamental Cast-Iron Area Guards.
- 1 Set of Rods for Basement Steps.

## FRONT No. 5 B.

SAME AS NO. 5, EXCEPT

Pilasters are 14" face.

Lintels are 14" wide.

## FRONT No. 5 C.

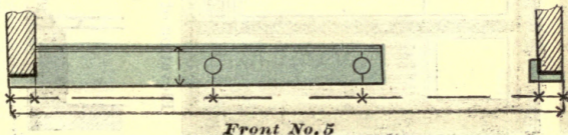
SAME AS NO 5, EXCEPT

Pilasters are 16" face.

Lintels are 16" wide.

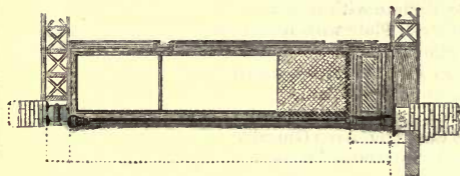
In ordering Iron Work for the above Fronts, give distances as shown on diagram below, also state how many stories high building is, and give thickness of front walls over Lintels.

For enlarged view of Columns and Pilasters, see cuts M and N, page 27.

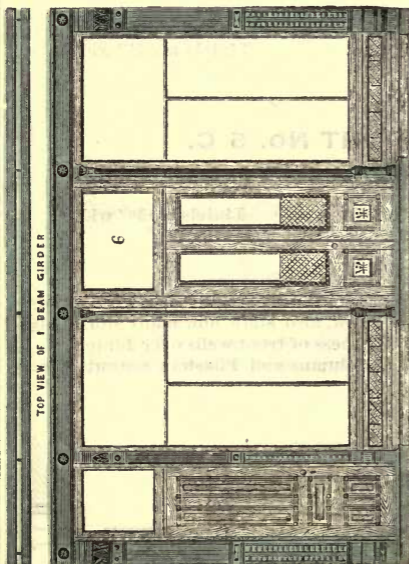


# DEARBORN FOUNDRY COMPANY.

## FRONT No. 6.



SECTION.



Elevation of Front showing Gas Pipe Columns and Beam Girder with Rosettes.



PLAN OF FRONT No. 6.

# DEARBORN FOUNDRY COMPANY.

## FRONT No. 6.

CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Store Door-Sill Plate with Riser.
- 1 Stair Door-Sill Plate with Riser.
- 2 Pilasters for 12" wall.
- 1 Pier-Plate under Pilaster.
- 1 Stair-Door Column, 6" face.
- 2 Gas-Pipe Columns for Store Entrance.
- 1 Girder composed of two Wrought-Iron I Beams with 5 Cast-Iron Separators, and 5 Bolts with Rosettes.

## FRONT No. 6 B.

SAME AS NO. 6, EXCEPT

Pilasters are 14" face.      Wrought-Iron I Beams spread 14" wide.

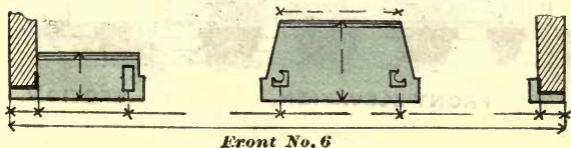
## FRONT No. 6 C.

SAME AS NO. 6, EXCEPT

Pilasters are 16" face.      Wrought-Iron I Beams spread 16" wide.

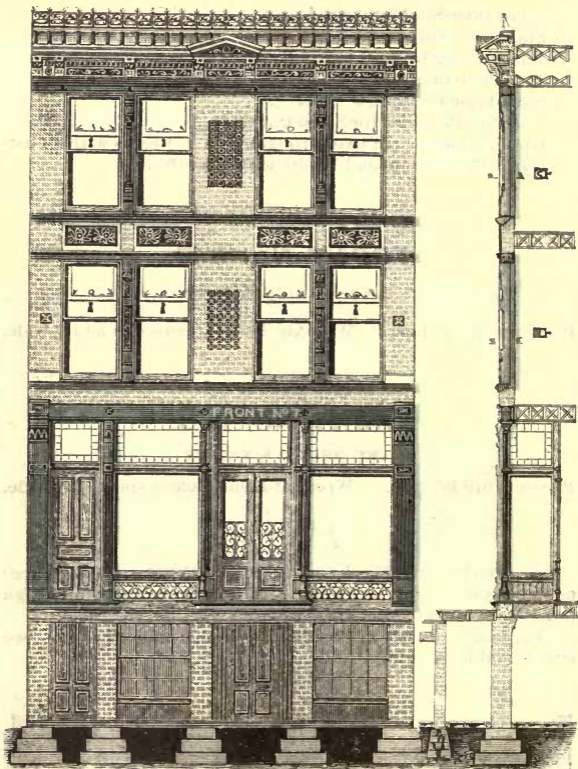
In ordering Iron Work for the above Fronts, give distances as shown on diagram below, also state how many stories high building is, and give thickness of front walls over Girders.

For enlarged view of Gas Pipe Columns and Pilasters, see cuts K and 40, page 27.



# DEARBORN FOUNDRY COMPANY.

## FRONT NO. 7.



FRONT ELEVATION.

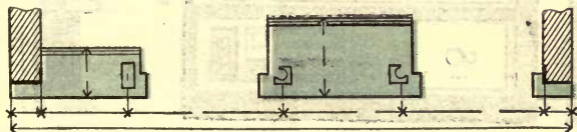
SECTION.

FRONT No. 7.

CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Store Door-Sill Plate with Riser.
- 1 Stair Door-Sill Plate with Riser.
- 1 Pier-Plate under Pilaster.
- 2 Pilasters for 12" wall.
- 1 Stair-Door Column, 6" face.
- 2 Gas Pipe Columns, for Store Entrance.
- 1 Girder, composed of Wrought Iron I Beams with
- 5 Cast Iron Separators, and 5 Bolts with Rosettes.
- 2 Show-Window Guards.
- 2 Store-Door Entrance Guards.
- 1 Cast-Iron Window-Sill, running entire width of front.
- 2 Mullions in 2nd Story, 6" face.
- 1 Cast-Iron Lintel Course over 2nd story.
- 1 Cast-Iron Window-Sill running entire width of front.
- 2 Mullions in 3rd Story, 6" face.
- 1 Girder, composed of Wrought-Iron I Beams over 3rd story with
- 6 Cast-Iron Separators, and 6 Bolts with Rosettes.
- Cast-Iron Cresting running entire width of Front over Cornice.

In ordering Iron Work for the above Front, give distances as shown on diagram below, also give thickness of front walls over Girder, as well as the walls above.

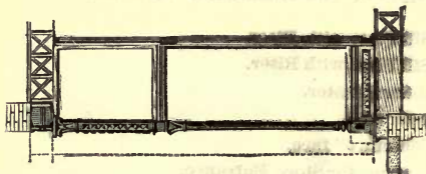


Front No. 7

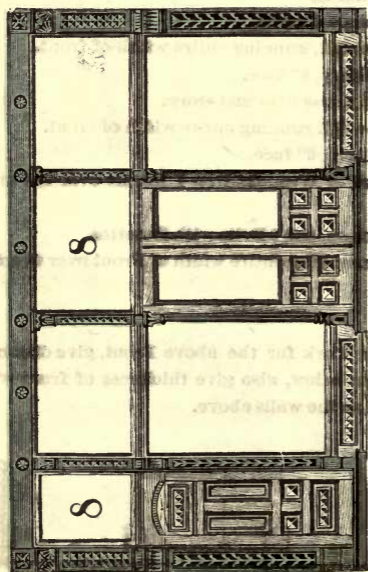
DEARBORN FOUNDRY COMPANY.

FRONT No. 8.

SECTION.

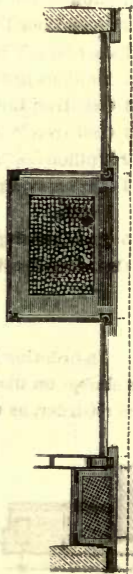


PLAN OF LINTELS.



ELEVATION OF FRONT. NO. 8.

PLAN OF FRONT.



# DEARBORN FOUNDRY COMPANY.

## FRONT No. 8.

CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Prismatic Store Door-Sill Plate with Riser.
- 1 Stair Door-Sill Plate with Riser.
- 2 Pilasters for 12" wall.
- 1 Pier-Plate under Pilaster.
- 1 Stair-Door Column, 6" face.
- 2 Gas-Pipe Columns for Store Entrance.
- 1 Girder, composed of two Wrought-Iron I Beams, 5 Cast-Iron Separators and 6 Rosettes and Bolts, and 2 Face Plates at ends of Beams.

NOTE.—If wanted, in place of Gas-Pipe Columns can substitute 4" Cast-Iron Columns. Also Cast-Iron Lintels may be used in place of Wrought-Iron Beams.

## FRONT No. 8 B.

SAME AS NO. 8, EXCEPT

Pilasters are 14" wide. Wrought-Iron I Beams spread 14" wide.

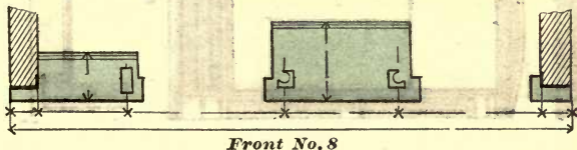
## FRONT No. 8 C.

SAME AS NO. 8, EXCEPT

Pilasters are 16" face. Wrought-Iron I Beams spread 16" wide.

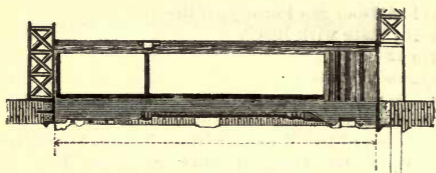
In ordering Iron Work for the above Fronts, give distances as shown on diagram below, also state how many stories high building is, and give thickness of front walls over Girders.

For enlarged view of Gas-Pipe Columns and Pilasters, see cuts 49 and 53, pages 29 and 35.



DEARBORN FOUNDRY COMPANY.

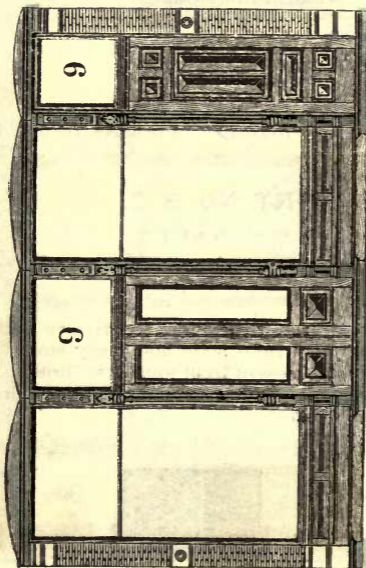
FRONT No. 9.



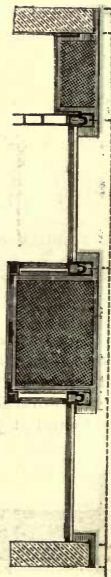
SECTION.



PLAN OF LINTELS.



ELEVATION OF FRONT No. 9.



PLAN OF FRONT.

# DEARBORN FOUNDRY COMPANY.

## FRONT No. 9.

CONSISTS OF THE FOLLOWING ARTICLES:

- 1 Stair Door-Sill Plate and Riser.
- 1 Store Door-Sill Plate and Riser.
- 1 Pier-Plate under Brick Pilaster.
- 1 Stair-Door Column.
- 2 Store-Door Columns.
- 4 Lintels (Bolts for same) for 12" wall.

## FRONT No. 9 B.

SAME AS NO. 9, EXCEPT

Lintels are 14" wide.

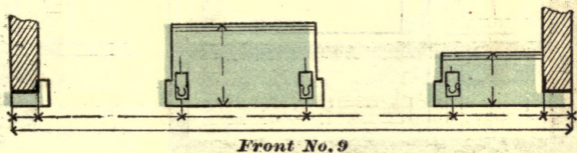
## FRONT No. 9 C.

SAME AS NO. 9, EXCEPT

Lintels are 16" wide.

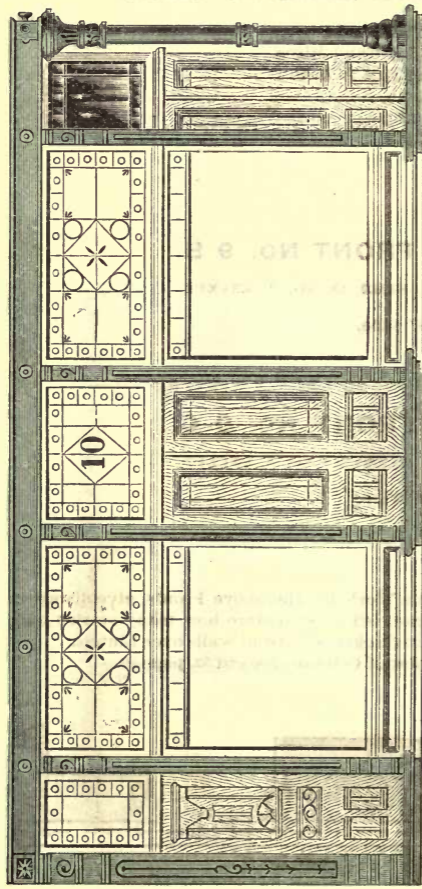
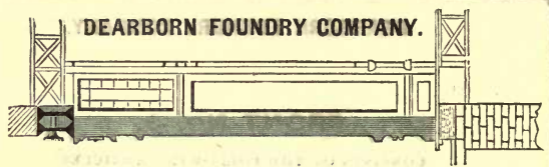
In ordering Iron Work for the above Fronts, give distances as shown on diagram below, also state how many stories high building is, and give thickness of front walls over Lintels.

For enlarged view of Columns see cut 52, page 30.



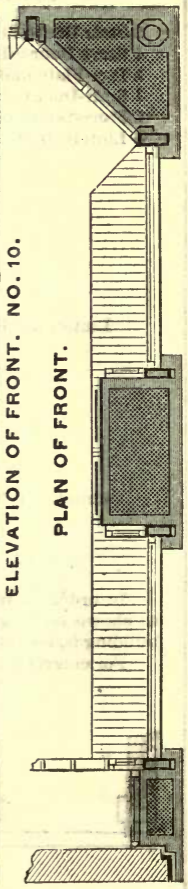
DEARBORN FOUNDRY COMPANY.

SECTION.



ELEVATION OF FRONT. NO. 10.

PLAN OF FRONT.



# DEARBORN FOUNDRY COMPANY.

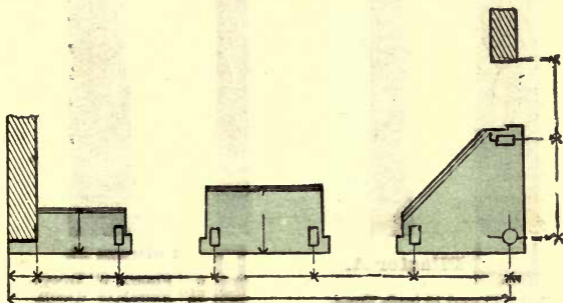
## FRONT NO. 10.

CONSISTS OF THE FOLLOWING ARTICLES.

- 1 Stair Door-Sill Plate and Riser.
- 1 Store Door-Sill Plate and Riser.
- 1 Corner Store-Door Sill Plate and Riser.
- 1 Pilaster for face of 12" Brick Wall.
- 1 Stair-Door Column, 6" face.
- 2 Store-Door Columns, 6" face.
- 2 Store-Door Columns, 6" face, for corner.
- 1 Corner-Column (full round) 10" diameter.
- 1 Girder, composed of two Wrought Iron I Beams framed at corner for Front, and return on side street.
- 8 Cast-Iron Separators, and bolts.
- 7 Rosettes.
- 2 Ornamental Face Plates at ends of Beams.
- 1 Ornamental Face Plate at Corner.

In ordering Iron-Work for the above Front give distances as shown on diagram below, also state how many stories high Building is, and give thickness of Front walls over Girder.

For enlarged view of Columns and Pilasters see cuts.



Front No. 10.

DEARBORN FOUNDRY COMPANY.

# PILASTER AND COLUMN.



**Pilaster A.**

9, 12, 14, 15 and 16 inch Face.



**Column B.**

6 " Face  $\times$  8" Deep.  
7 $\frac{1}{2}$ " Face  $\times$  12" Deep.

Square Columns of same design as Pilasters can be made any depth required. Give thickness of Metal for Columns and Pilasters.

DEARBORN FOUNDRY COMPANY.

PILASTERS AND ROUND COLUMNS.

4, 5, 6, 8, 10, 12, 14 and 16 inch face.



Pilaster C.

4, 5, 6, 8, 10, 12, 14 and 16 inch face.



Pilaster D.

Column E. For 5 and 6 inch diameter Column.



E1.



E2.

Square Columns of same design and face as Pilasters may be made any depth desired. Give thickness of Metal.

DEARBORN FOUNDRY COMPANY.

PILASTER FACES, SQUARE AND ROUND COLUMNS.

6, 8, 10, 12, 14, 16, 20 and 24 inch face.



Pilaster F.

5, 6, 7, 8, 9, 10, 11, 12, 14 and 16 inch diameter.



Column G.

6, 8, 12, 16 and 18 inch face.



Pilaster H.

6 and 8 inch diameter.



Column J.

Square Columns of same design and face can be made any depth desired.  
Give thickness of Metal.



G 1.



J 1.



G 2.



J 2.

PILASTERS AND ROUND COLUMNS.



**Pilaster K.**

6 and 12 inch Face.



5, 6, 8 and 12 inch Diameter.



**M.**



**M 1.**



**M 2.**



**Pilaster N.**

6, 8, 10, 12, 14 and 16  
inch Face.



Square Columns of same design and face can be made any depth desired. Give thickness of Metal.

# DEARBORN FOUNDRY COMPANY.

## ROUND COLUMNS.

4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 16 inch Diameter.



P.



P 1.



P 2.

6 inch Diameter.



R.



R 1.



R 2.

5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 16 inch Diameter.



S.



S 1.



S 2.

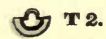
7 inch Diameter.



T.



T 1.



T 2.

DEARBORN FOUNDRY COMPANY.

PILASTER FACES AND SQUARE COLUMNS.

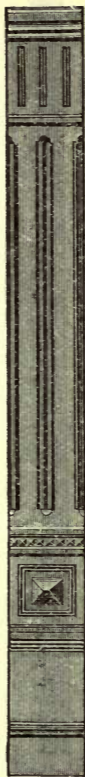
12, 10, 8, 6 and 4 inch Faces.



No. 49.



16½ inch Face.



No. 50.

Square Columns of same design and form can be made any depth desired. Give thickness of Metal.

DEARBORN FOUNDRY COMPANY.

COLUMNS.



No. 51

$6\frac{1}{8}$  and  $6\frac{3}{8}$  inch Faces.



No. 52

6 inch Face.



Square columns of same design and form can be made any depth desired. Give thickness of Metal.

# DEARBORN FOUNDRY COMPANY.

## COLUMNS.

5, 7, 8 and 10 inch Diameter.



No. 55,

5, 7 and 8 inch Diameter.



No. 56.

6 inch Diameter.



No. 57,

6 inch Diameter.



No. 58.



55 A.



56 A.



57 A.



58 A.



55 B.



56 B.



57 B.



58 B.

# DEARBORN FOUNDRY COMPANY.

## COLUMNS.

9 inch Diameter.



No. 59

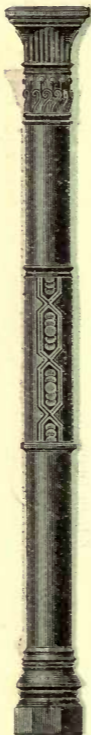


59 A.



59 B.

10 inch Diameter.



No. 60



60 A.



60 B.

8 inch Face.



No. 61.



Square column of same design and form as No. 61 can be made any depth desired.  
Give thickness of Metal

# DEARBORN FOUNDRY COMPANY.

## ANGLE AND ROUND COLUMNS.

5 and 5½ inch.



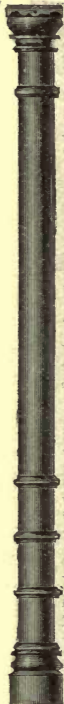
5, 6, 7 and 8 inch Diameter.



9 inch Diameter.



9, 10 and 11 inch Diameter.



Angle Column O.



U.



V.



No. 48



U 1.



V 1.



48 A.



U 2.



V 2.

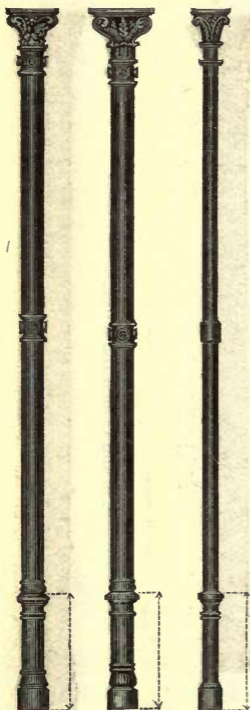


48 B.

Give thickness of Metal.

DEARBORN FOUNDRY COMPANY.

# SQUARE AND ROUND COLUMNS.



5\"/>



No. 32



No. 33



No. 32 A

5\"/>



No. 34



No. 35



No. 34 A

4\"/>



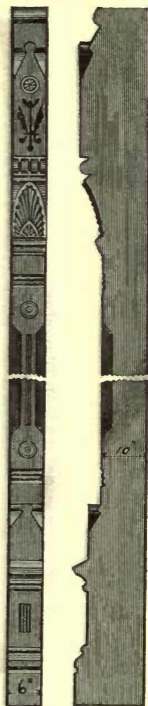
No. 36



No. 37



No. 36 A



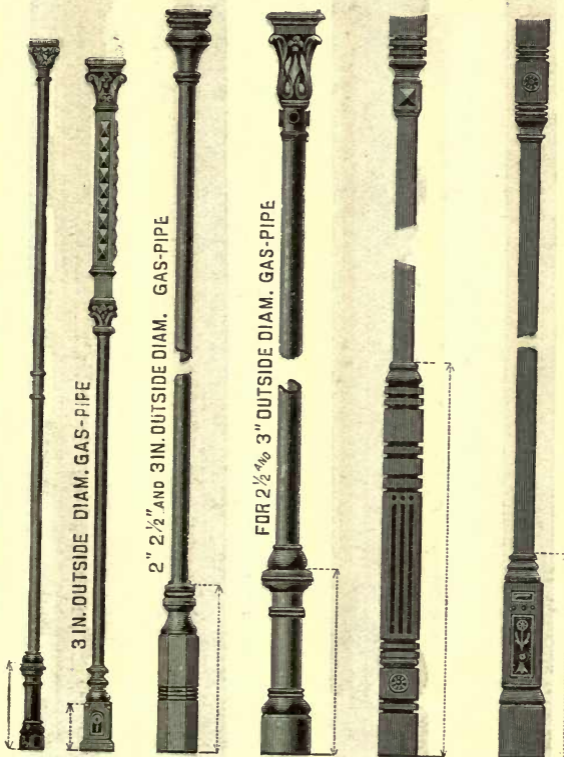
FRONT - SIDE -

COLUMN No 46

Give thickness of  
Metal.

# DEARBORN FOUNDRY COMPANY.

## GAS PIPE AND SASH COLUMNS.



3 IN. OUTSIDE DIAM. GAS-PIPE

2" 2 1/2" AND 3 IN. OUTSIDE DIAM. GAS-PIPE

FOR 2 1/2" AND 3" OUTSIDE DIAM. GAS-PIPE

Gas Pipe Col. L. No. 53. Gas Pipe Col. No. 38 Gas Pipe Col. No. 40 Angle Sash Col. No. 42 Angle Sash Col. No. 44.

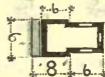
2 1/2" diam. No. 54 Gas Pipe Col. No. 39 Gas Pipe Col. No. 41 Sash Col. No. 43 Sash Col. No. 45.

# DEARBORN FOUNDRY COMPANY.

## MULLIONS.



5. 6 and 8 inch Face.



**Mullion Column W.**

**Mullion Column X.**

Square Mullions of same design and face can be made any depth desired. Give thickness of metal.

# DEARBORN FOUNDRY COMPANY.

## MULLIONS.



FRONT & SIDE VIEW OF MULLIONS N<sup>o</sup> 20 & 21.



MULLION N<sup>o</sup> 20.

8 FACE



MULLION N<sup>o</sup> 21



FRONT & SIDE VIEW OF MULLIONS N<sup>o</sup> 22 & 23.



MULLION N<sup>o</sup> 22

8 FACE



MULLION N<sup>o</sup> 23

Square Mullions of same design and face can be made any depth desired. Give thickness of Metal.

# DEARBORN FOUNDRY COMPANY.

## MULLIONS.



Front and Side View of Mullions Nos. 24 and 25.



Front and Side View of Mullions Nos. 26 and 27.



MULLION No 24  
8" FACE



MULLION No 26  
9" FACE



MULLION No 25



MULLION No 27

Square Mullions of same design and face can be made any depth desired. Give thickness of metal.

DEARBORN FOUNDRY COMPANY.

MULLIONS.



FRONT & SIDE VIEW OF MULLIONS N<sup>o</sup> 28 & 29.



FRONT & SIDE VIEW OF MULLIONS N<sup>o</sup> 30 & 31.



MULLION N<sup>o</sup> 28

9" FACE



MULLION N<sup>o</sup> 29



MULLION N<sup>o</sup> 30

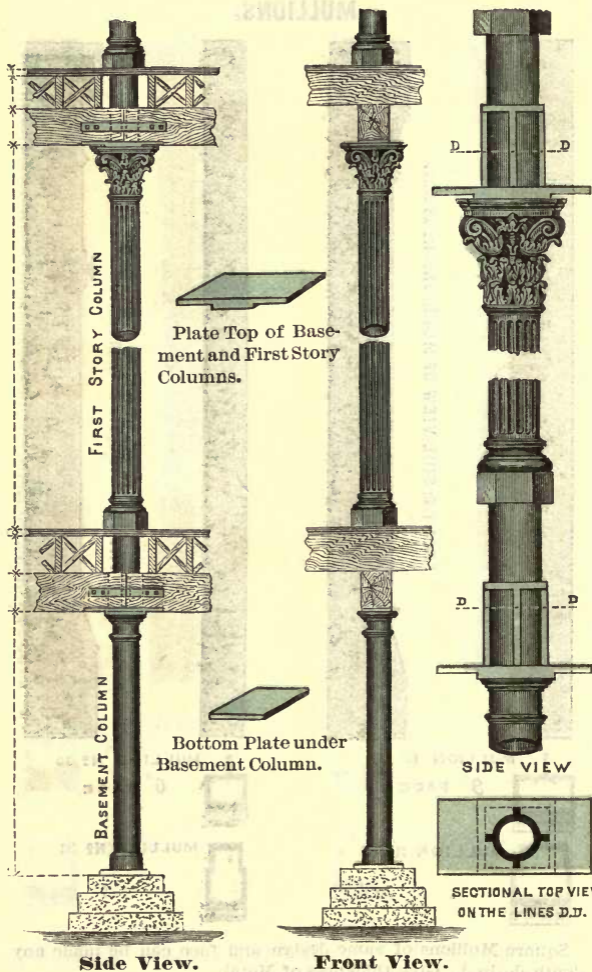
6" FACE



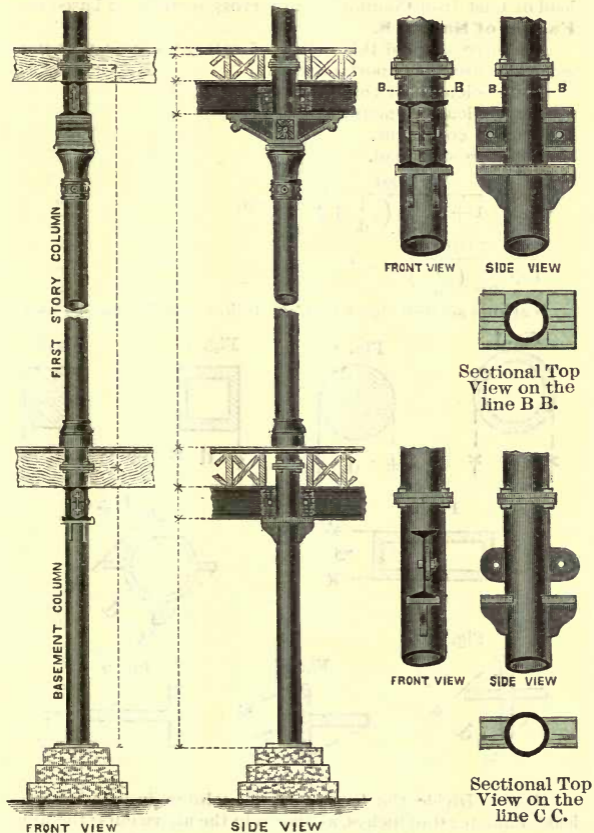
MULLION N<sup>o</sup> 31

Square Mullions of same design and face can be made any depth desired. Give thickness of Metal.

# DEARBORN FOUNDRY COMPANY.



# DEARBORN FOUNDRY COMPANY.



# DEARBORN FOUNDRY COMPANY.

## STRENGTH OF CAST IRON COLUMNS.

The following table of Coefficients for determining the safe load of Cast Iron Columns of any cross section, is based on a **Factor of Safety 8.**

We have adopted this factor of safety as it is now more generally used in important work.

Let  $l$  = length of column in inches.

Let  $d$  = least diameter in inches.

Let  $C$  = coefficient.

Let  $W$  = safe load.

$$W = \frac{10000}{1 + \frac{1}{400} \left( \frac{l}{d} \right)^2} \times \text{area.}$$

$$\frac{10000}{1 + \frac{1}{400} \left( \frac{l}{d} \right)^2} = C$$

Various sections for which the following table can be used:—

Fig. 1



Fig. 2



Fig. 3

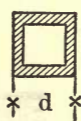


Fig. 4



Fig. 5

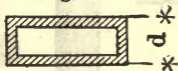


Fig. 6

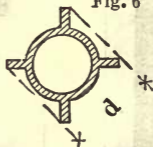


Fig. 7



Fig. 8

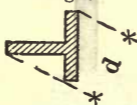
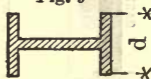


Fig. 9



**RULE:—**Divide the length of the column in inches by the least diameter  $d$  in inches, as shown in the above cuts; the number in column headed  $C$  of the table on opposite page, corresponding to the quotient  $\frac{l}{d}$  so found multiplied by the area of cross section of the column in square inches, will give the safe load in tons of 2,000 lbs.

# DEARBORN FOUNDRY COMPANY.

## TABLE OF COEFFICIENTS FOR CAST IRON COLUMNS.

### FACTOR OF SAFETY 8.

$\frac{1}{d}$	Coefficient	$\frac{1}{d}$	Coefficient	$\frac{1}{d}$	Coefficient	$\frac{1}{d}$	Coefficient	$\frac{1}{d}$	Coefficient	$\frac{1}{d}$	Coefficient
	Tons		Tons		Tons		Tons		Tons		Tons
1	4.98	13	3.51	25	1.95	37	1.13	49	0.71	61	0.48
2	4.95	14	3.35	26	1.85	38	1.08	50	0.68	62	0.47
3	4.89	15	3.20	27	1.77	39	1.04	51	0.66	63	0.45
4	4.80	16	3.04	28	1.68	40	1.00	52	0.64	64	0.44
5	4.70	17	2.90	29	1.61	41	0.96	53	0.62	65	0.43
6	4.58	18	2.76	30	1.53	42	0.92	54	0.60	66	0.42
7	4.45	19	2.62	31	1.46	43	0.88	55	0.58	67	0.40
8	4.31	20	2.50	32	1.40	44	0.85	56	0.56	68	0.39
9	4.15	21	2.37	33	1.34	45	0.82	57	0.54	69	0.38
10	4.00	22	2.26	34	1.28	46	0.79	58	0.53	70	0.37
11	3.83	23	2.15	35	1.23	47	0.76	59	0.51	71	0.36
12	3.67	24	2.04	36	1.17	48	0.73	60	0.50	72	0.35

EXAMPLE OF TABLE :—What is the safe load of a hollow rectangular Cast Iron Column (fig. 5) 6" face, 12" deep, 1" metal 10'-0" long ?

$$\frac{1}{d} = \frac{10 \times 12}{6} = \frac{120}{6} = 20$$

In column  $\frac{1}{d}$  and opposite 20, find 2.5 Tons—

Area = 32 inches, which multiplied by 2.5 Tons =

W = 32 × 2.5 = 80 Tons safe load (factor of safety 8).

For the convenience of Architects, we have given a number of tables of Round, Square and Rectangular Columns, shown in the following pages, as a quicker method of determining the sizes of columns they desire to use, and have adopted the Formulas and Coefficients for the strength of Square and Rectangular Columns given by F. Schumann, C. E.

# DEARBORN FOUNDRY COMPANY.

## SAFE LOAD OF HOLLOW CYLINDRICAL CAST IRON COLUMNS.

### ONE-EIGHTH THE BREAKING WEIGHT.

The following tables give the **Safe Load in Tons of 2,000 lbs.** for Columns having Capitals and Bases accurately turned to a true plane, having a perfectly fair bearing, and set with a degree of care usual in ordinary building. **For diameters or lengths intermediate of those in the tables, the loads may be found near enough by simple proportion.**

**For Thicknesses less than those in the table, the loads may safely be asumed to diminish in the same proportion as the thickness, while the outer diameter remains the same. But for greater thicknesses than those in the table, the loads do not increase as rapidly as the new thickness. Still in practice they may be assumed to do so approximately, if the new thickness does not exceed about 1.8 part of the outer diameter.**

### SAFE LOAD IN TONS FOR CAST IRON COLUMNS WITH TURNED CAPITALS AND BASES.

Height in Feet.	External Diam. 3 inches.					External Diam. 4 inches.					External Diam. 5 inches.					External Diam. 6 inches.				
	Thickness of Metal.					Thickness of Metal.					Thickness of Metal.					Thickness of Metal.				
	½"	¾"	1"	1 ¼"	1 ½"	½"	¾"	1"	1 ¼"	1 ½"	½"	¾"	1"	1 ¼"	1 ½"	¾"	1"	1 ¼"	1 ½"	1 ¾"
7	8.0	9.9	10.7	...	...	15.5	20.5	23.9	26.0	24.6	33.6	40.6	45.8	48.3	59.8	68.9	76.3	...	...	...
8	6.8	8.1	8.7	...	...	13.5	17.7	20.6	22.3	21.9	29.7	35.8	40.2	43.5	53.5	61.6	68.0	...	...	...
9	5.5	6.6	7.1	...	...	11.8	15.6	17.9	19.3	19.5	26.4	31.6	35.5	39.2	48.1	55.3	60.8	...	...	...
10	4.6	5.5	6.0	...	...	10.8	13.7	15.5	16.4	17.5	23.5	28.1	31.5	35.5	43.5	49.7	54.6	...	...	...
11	4.0	4.7	5.0	...	...	9.2	11.6	13.1	14.0	15.7	21.1	25.1	28.0	32.2	39.3	44.9	49.1	...	...	...
12	3.3	4.1	4.3	...	...	7.9	10.1	11.2	12.0	14.1	19.0	22.6	25.1	29.3	35.7	40.7	44.5	...	...	...
13	3.0	3.5	3.8	...	...	6.9	8.8	9.9	10.5	13.1	17.2	20.1	22.0	26.8	32.5	37.0	40.3	...	...	...
14	2.6	3.1	3.3	...	...	6.1	7.7	8.7	9.3	11.5	15.1	17.5	19.3	24.5	29.7	33.8	36.8	...	...	...
15	2.3	2.8	3.0	...	...	5.4	6.9	7.8	8.2	10.3	13.5	15.7	17.2	23.0	27.4	30.6	32.8	...	...	...
16	2.1	2.5	2.6	...	...	4.8	6.1	7.0	7.3	9.2	12.1	14.1	15.4	20.6	24.6	27.5	29.5	...	...	...
17	1.8	2.2	2.4	...	...	4.3	5.5	6.3	6.6	8.3	10.9	12.7	13.9	18.6	22.1	24.8	26.5	...	...	...
18	1.7	2.0	2.1	...	...	4.0	5.0	5.6	6.0	7.5	9.9	11.4	12.6	16.8	20.1	22.5	24.1	...	...	...
19	1.5	1.8	2.0	...	...	3.6	4.6	5.1	5.5	6.8	9.0	10.5	11.5	15.3	18.3	20.5	22.0	...	...	...
20	1.4	1.6	1.8	...	...	3.3	4.2	4.7	5.0	6.3	8.3	9.6	10.5	14.1	16.8	18.8	20.1	...	...	...
21	1.3	1.5	1.6	...	...	3.0	3.8	4.3	4.6	5.8	7.6	8.8	9.6	13.0	15.5	17.3	18.5	...	...	...
22	1.1	1.4	1.5	...	...	2.8	3.6	4.0	4.3	5.3	7.0	8.1	9.0	12.0	14.3	16.0	17.1	...	...	...
23	1.1	1.3	1.4	...	...	2.6	3.3	3.7	4.0	5.0	6.5	7.6	8.3	11.1	13.2	14.8	15.8	...	...	...
24	1.0	1.2	1.3	...	...	2.4	3.1	3.5	3.6	4.6	6.0	7.0	7.7	10.3	12.3	13.8	14.8	...	...	...
25	1.0	1.1	1.2	...	...	2.3	2.8	3.2	3.4	4.3	5.6	6.6	7.1	9.6	11.5	12.8	13.8	...	...	...

**SAFE LOAD IN TONS FOR CAST IRON COLUMNS WITH TURNED CAPITALS AND BASES.**

Height in Feet	External Diameter, 7 inches.					External Diameter, 8 inches.					External Diameter, 9 inches.					External Diameter, 10 inches.					External Diameter, 11 inches.				
	Thickness of Metal.					Thickness of Metal.					Thickness of Metal.					Thickness of Metal.					Thickness of Metal.				
	¾"	1"	1¼"	1½"	1¾"	¾"	1"	1¼"	1½"	1¾"	¾"	1"	1¼"	1½"	1¾"	¾"	1"	1¼"	1½"	1¾"	¾"	1"	1¼"	1½"	1¾"
7	64.0	80.4	94.1	105.8		80.1	101.6	120.6	137.1		96.7	123.5	147.8	169.6		113.5	145.8	175.5	202.6		168.3	203.6	236.0	293.4	
8	58.5	73.1	85.5	95.9		74.1	93.8	111.0	126.0		90.4	115.3	137.6	157.5		106.9	137.1	164.8	189.9		159.4	192.5	223.0	276.3	
9	53.5	66.6	77.8	87.0		68.6	86.5	102.2	115.7		84.3	107.3	127.9	146.1		100.5	128.8	154.5	177.8		150.7	181.7	210.1	259.7	
10	49.0	60.9	70.9	79.1		63.4	79.8	94.1	106.3		78.7	100.0	118.9	135.6		94.5	120.8	144.7	166.2		142.3	171.3	197.9	243.9	
11	44.8	55.7	64.7	72.0		58.7	73.7	86.8	97.9		73.4	93.1	110.6	125.8		88.8	113.3	135.5	155.4		134.3	161.5	186.3	228.9	
12	41.2	51.0	59.2	65.8		54.3	68.2	80.1	90.1		68.5	86.7	102.8	116.8		83.3	106.3	126.9	145.3		126.6	152.1	175.3	214.9	
13	37.9	46.9	54.3	60.3		50.4	63.1	74.0	83.2		64.0	80.8	95.7	108.6		78.3	99.1	118.9	136.0		119.5	143.3	165.0	201.7	
14	35.0	43.2	50.0	55.3		46.8	58.6	68.6	77.0		59.8	75.5	89.2	101.1		73.6	93.6	111.5	127.3		112.8	135.1	155.3	189.5	
15	32.3	39.9	46.1	51.0		42.6	54.4	63.6	71.3		55.9	70.5	83.3	94.3		69.2	87.9	104.6	119.4		106.4	127.4	146.3	178.1	
16	30.0	37.0	42.6	47.1		40.6	50.6	59.1	66.3		52.4	66.0	77.8	88.0		65.1	82.7	98.3	112.0		100.5	120.2	137.9	167.6	
17	27.8	34.3	39.5	43.6		37.9	47.3	55.1	61.6		49.1	61.8	72.9	82.3		61.4	77.8	92.5	105.3		95.0	113.5	130.1	157.9	
18	26.2	31.8	36.1	39.3		35.5	44.1	51.5	57.5		46.1	58.0	68.3	77.1		57.9	73.3	87.0	99.0		89.9	107.3	122.9	148.9	
19	23.9	29.0	32.9	35.8		33.2	41.3	48.1	53.8		43.5	54.6	64.1	72.4		54.6	69.2	82.0	93.3		85.1	101.5	116.1	140.6	
20	21.9	26.5	30.1	32.8		31.9	39.1	45.0	49.6		40.9	51.4	60.4	68.0		51.6	65.3	77.5	88.0		80.6	96.1	110.0	132.8	
21	20.1	24.4	27.8	30.2		29.3	36.0	41.5	45.7		38.6	47.1	56.8	64.1		48.9	61.8	73.2	83.1		76.5	91.1	104.1	125.7	
22	18.6	22.6	25.6	27.9		27.1	33.3	38.3	42.2		36.5	45.7	53.6	60.4		46.3	58.5	69.3	78.6		72.6	86.5	98.8	119.1	
23	17.3	20.9	23.8	25.9		25.1	30.8	35.5	39.1		34.9	43.3	50.2	55.9		44.0	55.5	65.6	74.4		69.0	82.1	93.8	112.9	
24	16.0	19.5	22.1	24.1		23.4	28.7	33.0	36.4		32.5	40.2	46.7	52.0		41.8	53.6	62.3	70.5		65.7	78.1	89.1	107.2	
25	15.0	18.1	20.6	22.5		21.8	26.8	30.8	34.0		30.3	37.5	43.6	48.5		40.5	50.6	58.8	66.4		62.6	74.4	84.8	101.9	

# DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

## SAFE LOAD IN TONS FOR CAST IRON COLUMNS WITH TURNED CAPITALS AND BASES.

Height in Feet.	External Diameter, 12 inches.				External Diameter, 13 inches.				External Diameter, 14 inches.				External Diameter, 15 inches.				External Diameter, 16 inches.			
	Thickness of Metal.				Thickness of Metal.				Thickness of Metal.				Thickness of Metal.				Thickness of Metal.			
	1"	1 1/4"	1 1/2"	2"	1"	1 1/4"	1 1/2"	2"	1"	1 1/4"	1 1/2"	2"	1"	1 1/4"	1 1/2"	2"	1"	1 1/4"	1 1/2"	2"
7	190.8	231.7	269.8	338.0	213.4	259.0	303.5	382.9	236.0	288.1	337.4	427.8	258.5	316.3	371.2	472.9	281.1	344.4	405.0	517.8
8	181.8	220.5	256.3	320.5	204.3	247.6	290.0	364.9	226.9	276.7	323.7	409.9	249.5	304.9	357.6	454.8	272.0	333.0	391.4	499.8
9	172.8	209.3	243.1	303.1	195.2	236.5	276.5	347.1	217.8	265.2	310.1	391.8	240.2	293.4	343.8	436.5	262.8	321.5	377.5	481.5
10	164.1	198.5	230.3	286.4	186.2	225.5	263.3	329.8	208.6	253.9	296.6	374.0	231.0	281.8	330.1	418.3	253.5	310.0	363.6	463.0
11	155.7	188.1	218.0	270.5	177.5	214.6	250.3	313.1	199.6	242.8	283.3	356.6	221.9	270.6	316.4	400.5	244.1	298.3	349.8	444.8
12	147.6	178.1	206.2	255.3	169.0	204.1	238.0	297.0	190.8	231.9	270.3	339.7	212.8	259.3	303.1	383.0	235.0	287.0	336.2	427.1
13	139.9	168.7	195.1	241.0	160.9	194.2	226.1	281.6	182.3	221.4	257.9	323.5	204.1	248.5	290.3	366.1	226.0	275.7	322.9	409.4
14	132.6	159.7	184.5	227.5	153.1	184.6	214.8	267.1	174.2	211.3	246.0	308.1	195.6	237.9	277.7	349.8	217.2	264.8	309.9	392.5
15	125.7	151.3	174.6	214.9	145.7	175.6	204.0	253.3	166.3	201.6	234.5	293.3	187.4	227.8	265.7	334.3	208.6	254.3	297.4	376.1
16	119.2	143.3	165.3	203.1	138.7	167.0	193.9	240.3	158.9	192.5	223.6	279.3	179.5	218.0	254.1	319.3	200.4	244.1	285.3	360.3
17	113.1	135.9	156.6	192.1	132.0	159.0	184.3	228.1	151.8	183.7	213.3	266.0	171.9	208.7	243.1	305.0	192.5	234.3	273.7	345.3
18	107.4	128.9	148.4	181.8	125.8	151.3	175.3	216.6	145.0	175.3	203.5	253.4	164.7	199.8	232.6	291.5	184.8	224.9	262.5	330.8
19	102.0	122.3	140.8	172.2	119.8	144.1	166.8	205.9	138.5	167.5	194.2	241.5	157.8	191.3	222.6	278.6	177.5	215.8	251.8	317.0
20	97.0	116.2	133.6	163.3	114.2	137.3	158.8	195.8	132.5	160.0	185.4	230.3	151.2	183.3	213.1	266.4	170.5	207.2	241.7	303.9
21	92.3	110.5	127.0	154.9	109.0	130.9	151.3	186.3	126.6	152.9	177.1	219.8	145.0	175.6	204.0	254.8	163.8	190.0	232.0	291.3
22	87.8	105.1	120.8	147.1	104.0	124.9	144.3	177.5	121.2	146.2	169.3	209.9	139.0	168.3	195.5	243.9	157.4	191.1	222.7	279.5
23	83.7	100.1	115.0	140.0	99.3	119.2	137.7	169.1	116.0	140.0	161.9	200.5	133.3	161.4	187.3	233.5	151.3	183.6	213.9	262.5
24	79.8	95.5	109.5	133.2	95.0	113.9	131.5	161.4	111.1	134.0	155.0	191.7	128.0	154.8	179.6	223.8	145.5	176.5	205.5	257.4
25	76.2	91.1	104.4	126.9	90.8	108.9	125.6	154.1	106.5	128.3	148.4	183.8	122.9	148.6	172.4	213.5	140.0	169.7	197.5	247.2

DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

SAFE LOAD, IN TONS OF 2,000 LBS., FOR CAST IRON SQUARE COLUMNS, WITH  
TURNED CAPITALS AND BASES. FACTOR OF SAFETY OF 8.

Height in Feet	4"x4" square					5"x5" square					6"x6" square					7"x7" square					8"x8" square					9"x9" square				
	Thickness of Metal.					Thickness of Metal.					Thickness of Metal.					Thickness of Metal.					Thickness of Metal.					Thickness of Metal.				
	1/2"	3/4"	1"	1 1/4"	1 1/2"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"	3/4"	1"	1 1/4"	1 1/2"	1 3/4"
7	16.6	20.0	23.1	26.0	28.4	32.0	37.3	42.3	46.9	52.8	60.4	67.1	79.6	88.2	105.0	121.0	132.0	142.0	152.0	161.0	181.0	199.0	217.0	235.0	253.0	271.0	289.0	307.0	325.0	343.0
8	14.3	17.2	19.9	22.4	24.8	28.4	33.1	37.5	41.6	48.0	54.6	60.9	72.2	81.6	97.8	112.0	124.0	134.0	143.0	152.0	172.0	189.0	206.0	223.0	240.0	257.0	274.0	291.0	308.0	325.0
9	12.4	14.9	17.2	19.3	21.5	25.2	29.4	33.3	36.9	43.5	49.5	55.2	65.5	75.3	90.2	103.0	115.0	123.0	133.0	143.0	163.0	180.0	197.0	214.0	231.0	248.0	265.0	282.0	299.0	316.0
10	10.7	12.9	15.0	16.8	18.8	22.4	26.1	29.5	32.7	39.3	44.8	50.0	59.3	69.1	83.0	95.3	108.0	116.0	124.0	134.0	154.0	171.0	188.0	205.0	222.0	239.0	256.0	273.0	290.0	307.0
11	9.4	11.3	13.0	14.6	16.4	19.9	23.2	26.3	29.2	35.6	40.5	45.2	53.7	63.7	76.3	87.6	100.0	110.0	116.0	125.0	145.0	162.0	179.0	196.0	213.0	230.0	247.0	264.0	281.0	298.0
12	8.2	9.9	11.5	12.9	14.5	17.8	20.7	23.4	26.0	32.2	36.7	40.9	48.6	58.2	69.7	80.0	93.2	107.0	116.0	125.0	145.0	162.0	179.0	196.0	213.0	230.0	247.0	264.0	281.0	298.0
13	7.2	8.7	10.1	11.3	12.6	15.9	18.5	21.0	23.3	29.2	33.3	37.1	44.1	53.5	64.1	73.5	86.5	100.0	109.0	118.0	138.0	155.0	172.0	189.0	206.0	223.0	240.0	257.0	274.0	291.0
14	6.4	7.8	9.0	10.1	11.3	14.3	16.6	18.8	20.9	26.6	30.3	33.7	40.1	49.1	58.9	67.6	80.2	92.7	102.0	111.0	131.0	148.0	165.0	182.0	199.0	216.0	233.0	250.0	267.0	284.0
15	5.7	6.9	8.0	9.0	10.1	12.8	15.0	17.0	18.8	24.2	27.6	30.7	36.5	45.2	54.2	62.2	74.4	86.0	96.8	106.0	126.0	143.0	160.0	177.0	194.0	211.0	228.0	245.0	262.0	279.0
16	5.1	6.2	7.2	8.0	9.0	11.6	13.0	15.4	17.0	22.1	25.1	28.0	33.3	41.7	49.9	57.3	69.1	79.9	89.0	98.0	118.0	135.0	152.0	169.0	186.0	203.0	220.0	237.0	254.0	271.0
17	4.6	5.6	6.4	7.2	8.0	10.6	12.3	13.9	15.5	20.2	23.0	25.7	30.5	38.5	46.1	52.9	64.2	74.2	83.0	92.0	112.0	129.0	146.0	163.0	180.0	197.0	214.0	231.0	248.0	265.0
18	4.2	5.0	5.8	6.6	7.4	9.6	11.2	12.7	14.1	18.5	21.1	23.5	28.0	35.4	42.4	48.6	59.8	69.0	77.0	86.0	106.0	123.0	140.0	157.0	174.0	191.0	208.0	225.0	242.0	259.0
19	3.8	4.6	5.3	6.0	6.8	8.8	10.2	11.6	12.9	17.0	19.4	21.6	25.7	32.8	39.3	45.1	55.7	64.3	72.0	81.0	101.0	118.0	135.0	152.0	169.0	186.0	203.0	220.0	237.0	254.0
20	3.5	4.2	4.8	5.4	6.0	8.0	9.4	10.6	11.8	15.7	17.9	20.0	23.7	30.4	36.2	41.8	51.9	59.9	67.0	76.0	96.0	113.0	130.0	147.0	164.0	181.0	198.0	215.0	232.0	249.0
21	3.2	3.8	4.4	5.0	5.6	7.4	8.6	9.8	10.8	14.5	16.5	18.4	21.9	28.3	33.9	38.9	48.4	56.0	63.0	72.0	92.0	109.0	126.0	143.0	160.0	177.0	194.0	211.0	228.0	245.0
22	3.0	3.6	4.2	4.8	5.4	6.8	7.9	9.0	10.3	13.4	15.3	17.1	20.3	26.3	31.5	36.2	45.3	52.3	59.3	68.0	88.0	105.0	122.0	139.0	156.0	173.0	190.0	207.0	224.0	241.0
23	2.8	3.4	4.0	4.6	5.2	6.6	7.6	8.7	9.9	12.5	14.2	15.8	18.8	24.6	29.4	33.8	42.4	49.0	56.0	64.0	84.0	101.0	118.0	135.0	152.0	169.0	186.0	203.0	220.0	237.0
24	2.6	3.2	3.8	4.4	5.0	6.4	7.4	8.5	9.7	11.6	13.2	14.7	17.5	22.9	27.5	31.5	39.7	45.9	53.0	61.0	81.0	98.0	115.0	132.0	149.0	166.0	183.0	200.0	217.0	234.0
25	2.4	3.0	3.6	4.2	4.8	6.2	7.2	8.3	9.5	11.2	12.7	14.1	16.9	21.4	25.7	29.5	37.3	43.1	50.0	58.0	78.0	95.0	112.0	129.0	146.0	163.0	180.0	197.0	214.0	231.0
26	2.2	2.8	3.4	4.0	4.6	6.0	7.0	8.1	9.3	10.8	12.3	13.7	16.5	20.0	24.0	27.6	35.1	40.6	48.0	56.0	76.0	93.0	110.0	127.0	144.0	161.0	178.0	195.0	212.0	229.0
27	2.0	2.6	3.2	3.8	4.4	5.8	6.8	7.9	9.1	10.6	12.1	13.5	16.3	19.8	23.8	27.6	34.9	40.1	47.0	55.0	75.0	92.0	109.0	126.0	143.0	160.0	177.0	194.0	211.0	228.0

# DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

SAFE LOAD, IN TONS OF 2,000 LBS., FOR CAST IRON SQUARE COLUMNS, WITH  
TURNED CAPITALS AND BASES. FACTOR OF SAFETY 8.

Height In feet.	10" x 10" square					11" x 11" square					12" x 12" square					13" x 13" square					14" x 14" square				
	Thickness of Metal					Thickness of Metal					Thickness of Metal					Thickness of Metal					Thickness of Metal				
	¾"	1"	1¼"	1½"		¾"	1"	1¼"	1½"	2"	¾"	1"	1¼"	1½"	2"	1"	1¼"	1½"	2"		1"	1¼"	1½"	2"	
7	117	152	184	215		134	174	212	248		150	195	239	280	356	217	265	311	398		238	292	344	440	
8	112	146	177	207		129	168	204	239		145	189	231	271	344	210	258	303	386		232	285	335	429	
9	107	139	169	197		123	161	196	229		140	182	223	261	332	204	250	294	375		226	277	326	417	
10	102	132	160	187		118	154	187	219		135	176	215	252	320	198	242	284	363		220	269	317	406	
11	96	125	152	177		113	147	179	209		129	168	206	241	307	191	234	274	350		212	261	307	393	
12	91	118	144	167		107	139	170	199		124	161	197	231	294	183	224	263	336		205	251	296	379	
13	86	111	136	158		102	132	162	189		118	154	188	221	281	176	216	253	323		198	243	286	366	
14	81	105	128	149		97	126	154	180		113	147	180	211	268	169	207	243	310		191	234	275	352	
15	76	99	120	140		92	120	146	171		108	140	172	201	256	162	199	233	297		183	224	264	338	
16	72	93	113	132		87	114	139	162		102	134	163	192	243	155	189	223	285		176	216	255	326	
17	68	88	107	124		82	107	131	153		97	127	155	182	232	148	181	213	272		169	207	244	313	
18	64	83	101	117		78	102	124	145		93	121	148	174	220	142	173	204	260		163	200	235	301	
19	60	78	95	110		74	96	117	137		88	115	141	165	210	135	166	195	249		156	191	225	288	
20	56	73	89	104		70	91	111	130		84	110	134	157	200	129	159	186	238		150	184	216	277	
21	53	69	84	98		66	86	105	123		80	104	127	149	190	124	152	178	227		143	176	207	265	
22	50	65	79	92		63	81	99	116		77	99	121	142	180	118	144	169	216		137	168	198	254	
23	47	62	75	87		59	77	94	110		72	94	115	135	172	113	138	162	207		131	161	190	243	
24	44	58	71	82		56	73	89	104		69	90	110	129	163	108	132	155	198		126	154	182	233	
25	42	55	67	78		53	69	85	99		65	85	104	122	156	102	125	147	188		121	148	174	223	
26	40	52	63	74		51	66	81	94		62	81	99	117	148	98	120	141	180		115	142	167	213	
27	38	49	60	70		48	63	77	90		59	77	95	111	141	94	115	135	172		111	136	160	205	
28	36	47	57	66		46	60	73	85		57	74	90	106	135	90	110	129	165		106	130	153	196	

SAFE LOAD, IN TONS OF 2,000 LBS., FOR CAST IRON SQUARE COLUMNS, WITH  
TURNED CAPITALS AND BASES. FACTOR OF SAFETY 8.

Height in feet.	15" x 15" square						16" x 16" square						17" x 17" square						18" x 18" square						19" x 19" square					
	Thickness of Metal						Thickness of Metal						Thickness of Metal						Thickness of Metal						Thickness of Metal					
	1"	1 1/4"	1 1/2"	2"			1"	1 1/4"	1 1/2"	2"			1"	1 1/4"	1 1/2"	2"			1"	1 1/4"	1 1/2"	2"			1"	1 1/4"	1 1/2"	2"		
7	259	318	375	482			281	345	407	525			301	371	438	565			322	396	469	606			343	423	500	648		
8	253	312	366	472			275	338	399	514			296	364	430	555			317	390	462	597			338	417	493	639		
9	247	304	357	461			269	331	390	503			290	357	422	545			312	384	454	587			332	410	485	628		
10	241	296	348	449			263	323	381	491			284	349	413	533			306	376	445	576			327	403	477	618		
11	234	287	339	436			256	314	371	479			278	341	404	521			299	368	436	564			321	395	469	606		
12	227	279	329	422			250	306	362	466			271	343	394	509			293	361	427	551			314	387	459	593		
13	220	271	319	409			243	298	352	453			264	325	384	495			286	352	417	539			308	379	449	582		
14	212	262	308	396			235	289	341	440			256	316	373	481			280	344	407	526			301	371	438	570		
15	205	253	297	382			228	280	330	426			249	307	362	468			272	335	396	513			294	362	428	556		
16	198	244	287	369			221	271	320	413			242	298	352	455			264	325	385	498			287	354	418	541		
17	191	235	276	356			213	262	309	399			235	289	342	441			257	316	374	484			279	345	407	527		
18	184	226	266	343			206	253	299	385			228	280	331	427			250	308	364	471			272	335	397	514		
19	177	218	256	330			199	245	289	372			220	271	321	414			243	299	353	457			265	326	386	500		
20	170	210	247	317			192	236	278	359			213	263	311	401			235	290	342	443			258	318	376	487		
21	164	202	237	305			185	228	268	346			206	254	300	388			228	281	332	429			251	309	365	473		
22	157	194	227	293			178	219	258	333			199	245	290	375			221	273	322	416			243	300	354	459		
23	151	186	218	282			172	211	249	321			192	237	280	361			214	264	312	403			236	291	343	445		
24	145	179	210	271			166	203	240	309			185	228	270	348			207	255	302	390			229	282	334	432		
25	140	172	202	260			160	196	231	298			178	220	260	336			201	247	292	378			222	273	324	419		
26	134	165	194	250			154	189	223	287			172	212	251	324			194	239	283	366			215	265	314	407		
27	129	159	186	240			148	182	215	277			167	205	242	313			187	231	273	353			208	257	304	394		
28	124	152	178	231			143	175	207	267			161	198	234	303			181	223	264	341			202	249	295	382		

# DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

SAFE LOAD, IN TONS OF 2,000 LBS., FOR CAST IRON SQUARE COLUMNS, WITH  
TURNED CAPITALS AND BASES. FACTOR OF SAFETY 8.

Height in Feet	20" x 20" square					21" x 21" square					22" x 22" square					24" x 24" square				
	Thickness of Metal.					Thickness of Metal.					Thickness of Metal.					Thickness of Metal.				
	1"	1 1/4"	1 1/2"	2"	2 1/2"	1"	1 1/4"	1 1/2"	2"	2 1/2"	1"	1 1/4"	1 1/2"	2"	2 1/2"	1 1/4"	1 1/2"	2"	2 1/2"	3"
7	364	449	532	690	838	385	475	563	731	890	405	500	593	772	940	552	655	854	1041	1221
8	359	443	525	681	827	380	469	556	722	879	400	494	586	763	929	547	649	846	1032	1210
9	354	437	518	671	815	375	463	549	713	868	395	488	579	754	917	541	642	837	1022	1199
10	349	430	510	660	802	370	457	542	703	856	390	481	571	744	905	535	635	828	1010	1185
11	343	422	500	648	788	361	450	534	692	842	385	475	563	733	893	529	628	819	999	1171
12	336	414	491	636	773	357	441	525	680	826	379	468	555	722	879	522	620	808	986	1155
13	330	407	482	625	759	351	433	515	667	811	373	461	546	710	865	515	610	795	971	1137
14	323	398	472	613	744	345	425	504	655	797	366	453	536	698	850	507	601	783	957	1120
15	316	390	462	600	728	338	417	494	642	781	360	445	527	685	835	499	591	771	943	1103
16	309	380	451	586	711	331	409	484	630	765	353	436	517	672	819	490	581	758	926	1085
17	302	372	441	572	694	324	400	474	616	749	346	428	506	659	803	481	571	745	910	1066
18	294	363	430	558	677	316	391	463	601	732	338	419	496	645	786	472	561	732	895	1048
19	286	354	419	544	660	309	381	452	587	715	331	409	485	631	769	464	551	719	878	1029
20	279	345	409	530	644	302	372	441	573	698	323	400	474	617	752	455	540	704	860	1009
21	272	336	398	516	627	294	363	430	559	681	316	391	463	603	735	446	530	690	843	988
22	265	326	387	502	610	286	353	419	544	663	309	382	453	589	718	437	518	676	825	967
23	258	317	376	488	593	279	344	408	530	645	302	373	442	575	700	428	507	662	808	947
24	250	308	366	474	576	272	335	398	517	629	294	364	431	561	683	419	496	647	791	926
25	243	300	355	461	560	265	326	388	503	613	287	355	421	547	667	409	485	632	772	905
26	236	291	345	448	543	258	318	377	490	597	280	346	410	533	650	400	473	617	754	884
27	229	283	335	435	528	251	310	367	477	581	272	337	399	519	623	391	463	603	737	864
28	222	275	325	422	513	244	301	357	463	565	265	328	389	506	616	382	453	590	721	845

# DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

## SAFE LOAD, IN TONS OF 2,000 LBS., FOR CAST IRON RECTANGULAR COLUMNS, WITH TURNED CAPITALS AND BASES. FACTOR OF SAFETY 8.

Height in feet	3' x 4'			3' x 6'			4' x 6'			4' x 8'			5' x 7"			5' x 10"			6' x 8"			6' x 9"		
	Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.		
	¾"	1"	1 1/4"	¾"	1"	1 1/4"	¾"	1"	1 1/4"	¾"	1"	1 1/4"	¾"	1"	1 1/4"	¾"	1"	1 1/4"	¾"	1"	1 1/4"	¾"	1"	1 1/4"
7	13.9	15.5	16.9	19.0	23.6	28.0	30.3	38.0	44.3	38.0	47.6	56.0	46.2	59.1	70.0	59.4	76.2	91.6	62.9	80.5	96.5	68.0	87.3	105
8	11.6	12.9	14.0	15.8	19.5	23.6	26.2	33.0	38.5	33.0	41.0	48.7	41.1	52.0	61.0	52.7	67.7	81.3	57.0	73.0	87.7	61.5	79.3	95
9	9.5	10.7	11.8	13.3	16.5	22.7	28.3	33.5	38.5	28.5	35.5	42.1	36.5	46.2	54.8	46.7	60.1	72.2	51.8	66.3	79.4	56.0	71.8	86
10	8.3	9.2	10.0	11.3	14.2	19.5	25.0	29.0	34.0	24.5	31.0	37.0	32.3	41.0	48.7	41.5	53.3	64.0	46.8	60.0	71.8	50.6	65.0	78
11	7.1	7.9	8.6	9.7	12.0	17.0	21.6	25.3	30.0	21.5	27.3	32.0	28.6	36.7	43.3	37.0	47.7	57.0	42.4	54.0	65.5	46.0	59.0	71
12	6.1	6.8	7.5	8.3	10.4	15.0	18.8	22.0	26.0	19.0	23.5	28.0	25.5	32.5	38.6	33.0	42.3	50.6	38.4	49.2	58.9	41.5	53.3	64
13	5.3	5.9	6.4	7.3	9.0	13.3	16.5	19.5	23.0	16.5	21.0	25.0	23.0	29.2	35.0	28.2	37.8	46.0	35.3	45.0	53.5	37.2	48.5	58
14	4.7	5.2	5.7	6.4	8.0	11.7	14.7	17.5	21.1	14.7	18.5	22.1	27.0	26.3	31.5	25.9	34.0	41.0	32.0	41.0	48.5	34.0	44.0	53
15	4.2	4.7	5.0	5.5	7.0	10.5	13.2	15.5	19.7	13.0	16.5	19.7	18.6	23.6	28.3	23.9	30.7	36.8	28.9	36.9	44.3	31.1	40.0	48
16	3.7	4.1	4.5	5.0	6.2	9.5	11.7	14.0	17.5	11.7	14.8	17.5	16.8	21.2	25.5	21.5	28.0	33.5	26.4	34.0	40.5	28.3	37.0	44
17	3.3	3.7	4.0	4.5	5.5	8.6	10.5	12.4	15.8	10.5	13.3	15.8	15.3	19.3	23.0	19.5	25.5	30.3	24.0	31.0	37.0	26.0	33.5	40
18	3.0	3.3	3.6	4.1	5.0	7.7	9.5	11.2	14.3	9.5	12.0	14.3	13.9	17.6	21.0	17.9	23.0	27.5	22.0	28.3	33.9	23.9	30.7	36
19	.....	.....	.....	.....	.....	6.9	8.5	10.2	13.0	8.6	11.0	13.0	12.8	16.1	19.0	16.4	21.0	25.0	20.3	26.0	31.2	22.0	28.2	34
20	.....	.....	.....	.....	.....	6.2	7.7	9.4	11.8	7.8	10.0	11.8	11.7	14.8	17.5	15.0	19.3	23.1	18.7	24.0	28.7	20.3	26.0	31
21	.....	.....	.....	.....	.....	5.7	7.1	8.6	10.7	7.0	9.2	10.7	10.8	13.6	16.2	13.8	17.7	21.2	17.3	22.2	26.6	18.7	24.0	28
22	.....	.....	.....	.....	.....	5.2	6.5	7.9	9.8	6.3	8.4	9.8	10.0	12.5	14.9	12.8	16.2	19.5	16.0	20.5	24.7	17.3	22.3	26
23	.....	.....	.....	.....	.....	4.9	6.1	7.3	9.1	5.7	7.7	9.1	9.2	11.5	13.8	11.8	15.0	18.0	14.9	19.0	22.8	16.1	20.7	24
24	.....	.....	.....	.....	.....	4.6	5.7	6.8	8.5	5.2	7.2	8.5	8.5	10.7	12.8	10.9	14.0	16.8	13.9	17.7	21.0	16.0	19.2	23
25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7.9	10.0	11.9	10.0	13.0	15.6	12.9	16.5	19.3	14.0	17.9	21

# DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

SAFE LOAD, IN TONS OF 2,000 LBS., FOR CAST IRON RECTANGULAR COLUMNS,  
WITH TURNED CAPITALS AND BASES. FACTOR OF SAFETY 8.

Height in Feet	6" x 10"				7" x 10"				7" x 12"				7" x 14"				8" x 10"				8" x 12"				8" x 14"			
	Thickness of Metal.				Thickness of Metal.				Thickness of Metal.				Thickness of Metal.				Thickness of Metal.				Thickness of Metal.				Thickness of Metal.			
	¾"	1"	1¼"		¾"	1"	1¼"		¾"	1"	1¼"		¾"	1"	1¼"		¾"	1"	1¼"		¾"	1"	1¼"		¾"	1"	1¼"	
7	73.0	94.0	113		83.0	107	130		96.5	125	151		107	139	170		96.9	125	152		109	141	171		121	156	191	
8	66.5	85.0	103		75.0	97	118		89.0	115	140		99	129	157		89.2	117	142		102	132	160		112	147	179	
9	60.1	77.2	93		68.0	88	107		82.5	106	129		92	119	145		84.7	110	133		95	123	150		105	137	167	
10	54.3	70.0	84		61.8	80	96		76.0	98	120		85	110	134		79.2	102	124		88	115	140		98	128	156	
11	49.0	63.7	76		56.0	73	87		70.0	90	110		78	101	123		73.6	95	116		82	107	130		91	119	145	
12	44.5	57.3	69		50.7	65	79		63.8	82	100		71	93	112		68.0	88	107		77	99	120		85	110	134	
13	40.3	51.5	63		46.2	59	72		58.5	76	92		65	85	103		63.4	82	99		71	92	112		79	102	125	
14	36.6	47.0	57		42.0	54	65		53.8	69	84		60	77	94		58.8	76	92		66	85	104		73	95	116	
15	33.4	43.0	51		38.0	49	59		49.6	64	78		55	72	87		54.7	70	85		61	79	96		68	88	107	
16	30.8	39.3	47		35.0	45	54		45.5	59	72		51	66	81		50.9	65	79		56	74	90		63	82	100	
17	28.0	36.0	43		32.0	41	49		42.0	54	66		47	61	74		47.0	61	74		52	68	83		58	76	93	
18	25.6	33.0	39		29.2	37	45		38.8	50	60		43	56	68		43.9	56	68		49	63	77		54	70	86	
19	23.5	30.5	36		26.8	34	42		36.0	46	56		40	52	63		48.0	52	63		46	59	72		51	66	80	
20	21.7	28.0	33		24.7	32	38		33.5	43	52		37	48	58		37.8	49	59		43	55	67		47	61	75	
21	20.1	25.8	31		22.9	29	35		31.0	40	48		34	44	54		35.2	45	55		40	51	63		44	57	70	
22	18.7	23.8	28		21.3	27	33		28.6	37	45		32	42	51		32.7	43	51		37	48	58		41	53	65	
23	17.3	22.1	26		19.7	25	30		26.6	34	42		30	39	47		30.8	40	48		35	45	55		38	50	61	
24	16.0	20.6	24		18.3	23	28		25.1	32	39		28	36	44		29.2	39	45		32	42	51		36	47	57	
25	15.0	19.3	23		17.0	22	26		24.0	30	37		26	34	41		27.8	37	43		31	40	48		34	44	54	

DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

SAFE LOAD, IN TONS OF 2,000 LBS., FOR CAST IRON RECTANGULAR COLUMNS,  
WITH TURNED CAPITALS AND BASES. FACTOR OF SAFETY 8.

Height in Feet.	8" x 16"			9" x 12"			9" x 14"			9" x 16"			9" x 18"			10" x 15"			10" x 18"			10" x 20"		
	Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.		
	¾"	1"	1¼"	¾"	1"	1¼"	¾"	1"	1¼"	¾"	1"	1¼"	¾"	1"	1¼"	¾"	1"	1¼"	¾"	1"	1¼"	¾"	1"	1¼"
7	132	172	210	120	156	190	133	173	210	145	189	231	157	205	252	150	196	239	169	221	271	182	238	292
8	123	161	197	113	148	180	126	163	199	137	179	219	149	194	238	143	187	228	161	211	258	173	228	279
9	115	151	184	107	140	169	119	154	188	129	169	207	141	184	225	136	178	217	153	201	246	165	217	266
10	108	140	172	101	132	159	112	145	177	122	159	195	133	173	212	129	169	206	146	191	234	157	206	253
11	101	130	159	95	124	150	105	136	166	115	149	183	125	163	199	122	160	195	138	181	222	149	195	240
12	93	121	148	89	116	141	98	128	156	108	140	172	117	153	187	116	151	184	131	171	210	141	184	226
13	86	112	137	83	108	132	92	120	146	101	131	162	110	143	175	110	143	174	124	161	198	133	174	213
14	80	104	127	78	101	124	86	112	137	94	123	151	103	134	164	104	135	164	117	152	187	125	164	201
15	74	97	118	73	95	116	81	105	128	88	115	141	96	125	153	98	127	155	110	143	176	118	155	190
16	69	90	110	68	89	108	76	98	120	82	107	132	90	117	143	92	120	146	104	135	166	111	146	179
17	64	83	102	64	83	101	71	92	112	77	100	123	84	109	134	86	113	138	98	127	156	105	138	169
18	59	78	95	60	78	95	66	86	105	72	94	115	78	102	125	81	106	130	92	120	147	99	130	159
19	55	72	89	56	73	89	62	81	98	68	88	108	73	96	118	76	100	122	86	113	139	93	122	150
20	51	67	83	53	68	84	58	76	92	64	83	101	68	90	110	72	94	115	81	106	131	88	115	141
21	48	63	77	50	64	78	54	71	86	60	78	95	64	84	103	68	89	108	77	100	123	83	109	133
22	45	59	72	47	60	74	51	67	81	56	73	89	60	79	97	64	84	102	72	94	116	78	103	125
23	42	55	68	44	57	69	48	63	76	53	69	84	57	74	91	60	79	96	68	89	110	74	97	118
24	39	52	63	41	54	65	45	59	72	50	65	79	54	70	86	57	75	91	65	84	104	70	91	112
25	38	49	59	39	51	61	43	56	68	47	61	75	51	66	81	54	71	86	61	80	98	66	85	106

# DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

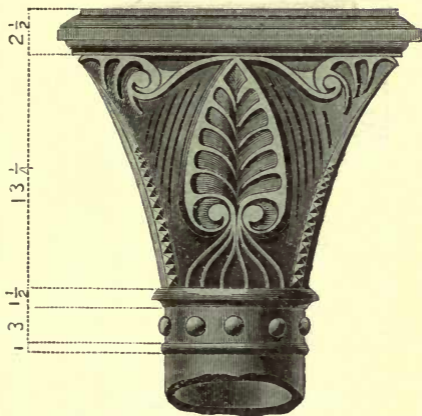
SAFE LOAD, IN TONS OF 2,000 LBS., FOR CAST IRON RECTANGULAR COLUMNS,  
WITH TURNED CAPITALS AND BASES. FACTOR OF SAFETY 8.

Height in feet.	11" x 15"			11" x 18"			11" x 22"			12" x 14"			12" x 16"			12" x 18"			12" x 20"			12" x 24"		
	Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.			Thickness of Metal.		
	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"	1"	1 1/4"	1 1/2"
7	209	254	301	236	289	340	271	333	393	214	262	307	232	284	334	249	303	361	267	328	388	303	373	441
8	201	245	290	227	278	327	261	321	378	207	253	297	224	275	323	241	294	349	258	317	375	293	361	426
9	193	236	278	218	267	314	250	308	362	200	244	287	216	265	312	233	285	337	249	306	362	283	348	411
10	185	226	266	208	256	301	239	294	346	192	235	276	208	255	300	224	275	324	240	295	348	272	335	396
11	176	216	254	198	244	287	228	280	330	184	226	265	200	244	288	215	264	311	231	284	334	261	322	381
12	167	206	242	189	232	273	217	267	314	177	217	253	191	234	276	206	253	298	221	272	320	250	308	365
13	159	196	230	180	220	260	206	253	299	169	207	242	183	224	264	197	242	285	211	260	306	239	294	349
14	151	186	218	171	209	247	195	240	284	161	197	231	175	214	252	188	231	272	201	248	292	228	281	333
15	143	176	207	162	198	234	185	228	269	154	188	221	167	204	240	179	220	259	192	236	278	218	268	317
16	136	166	196	154	188	222	175	216	256	146	179	210	159	194	229	171	210	247	183	225	265	208	255	302
17	129	157	186	146	178	210	166	205	243	139	171	200	151	185	218	163	200	235	174	214	253	198	243	287
18	122	149	176	138	169	199	157	194	231	132	162	190	144	176	207	155	190	224	166	204	241	188	231	273
19	116	141	167	130	160	188	149	184	219	126	154	181	137	167	197	147	181	213	158	194	229	179	220	260
20	110	133	158	123	151	178	141	174	207	120	147	172	130	159	188	140	172	203	150	185	218	170	209	248
21	104	126	150	116	143	169	134	165	196	114	140	164	124	151	179	133	164	193	143	176	207	162	199	236
22	98	120	142	110	136	160	127	156	185	108	133	156	118	144	170	127	156	184	136	167	197	154	190	224
23	93	114	134	104	129	152	120	148	175	103	127	149	112	137	162	121	148	175	129	159	188	147	181	213
24	88	108	127	99	122	144	114	140	165	98	121	142	107	131	154	115	141	166	123	151	179	140	172	203
25	83	102	120	94	116	136	108	132	155	94	115	135	102	125	146	109	134	158	117	144	170	133	164	193

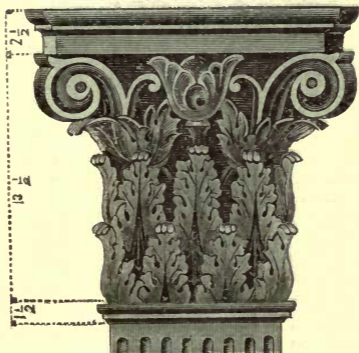
DEARBORN FOUNDRY COMPANY.

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## COLUMN CAPITALS.



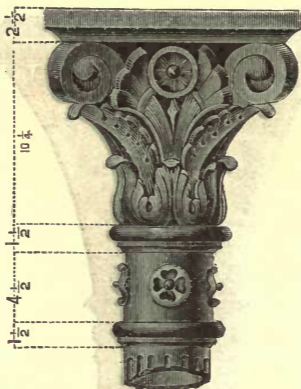
**Cap of Column "V."**  
For 9 inch Diameter Column.



**Cap of Pilaster "F."**  
For 6, 8, 10, 12, 14, 16, 20 and 24 inch Face Pilaster.

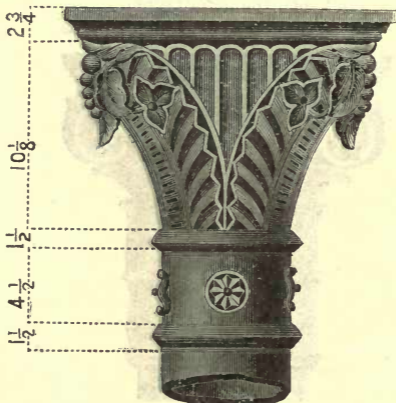
DEARBORN FOUNDRY COMPANY.

COLUMN CAPITALS.



Cap of Column "M."

For 5, 6, 8 and 12 inch Diameter Columns.



Cap of Column "T."

For 7 inch Diameter Column.

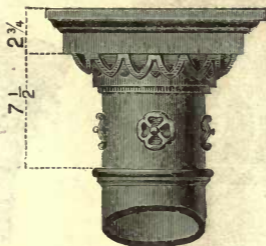
DEARBORN FOUNDRY COMPANY.

COLUMN CAPITALS.



Cap of Column "G."

For 5, 6, 7, 8, 9, 10, 11, 12, 14 and 16 inch Diameter Column.

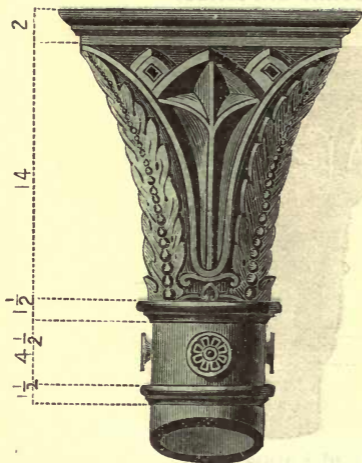


Cap of Column "S."

For 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 16 inch Diameter Column.

DEARBORN FOUNDRY COMPANY.

COLUMN CAPITALS.



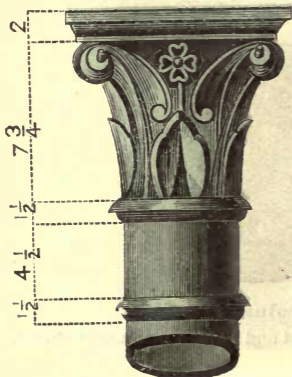
Cap of Column No. 50.

For 6 and 8 inch Diameter Column.



Cap No. 80.

For 5 and 8 inch Diameter.



Cap of Column "R."

For 6 inch Diameter Column.

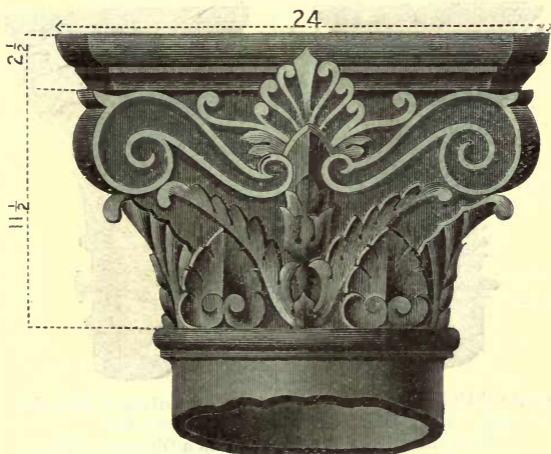


Cap No. 81.

For 17 inch Diameter.

DEARBORN FOUNDRY COMPANY.

COLUMN CAPITALS.



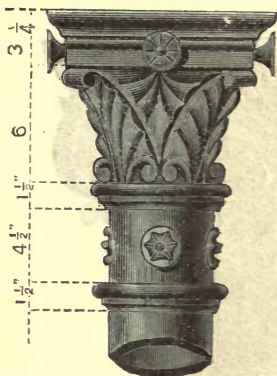
Cap of Column No. 63.  
13 inch Diameter.



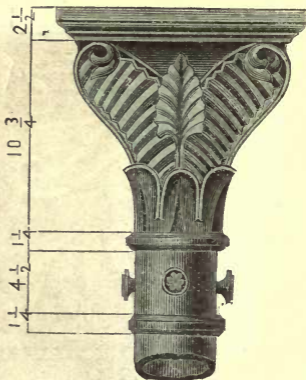
Cap of Column No. 60.  
10 inch Diameter.

DEARBORN FOUNDRY COMPANY.

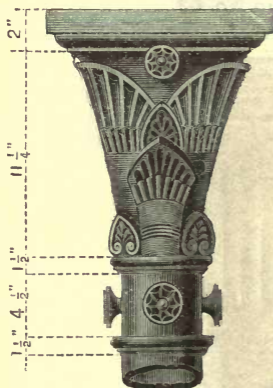
# COLUMN CAPITALS.



**Cap of Column "J."**  
For 6 and 8 Inch Diameter Columns.



**Cap of Column Nos. 34 and 35.**  
For 5 Inch Diameter Column.



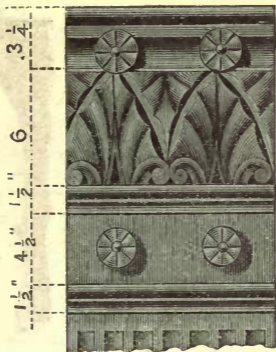
**Cap of Column "E."**  
For 5, 6, 9 and 12 Inch Diameter Columns.



**Cap of Column Nos. 32 and 33.**  
For 5 and 6 Inch Diameter Columns.

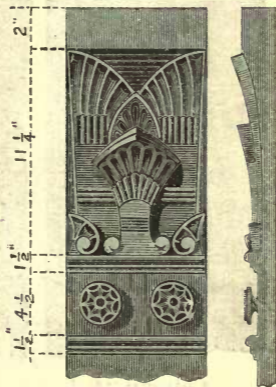
DEARBORN FOUNDRY COMPANY.

## PILASTER AND COLUMN CAPITALS.



**Cap of Pilaster "H."**

For 6, 8, 12, 16 and 18 inch Face Pilaster.

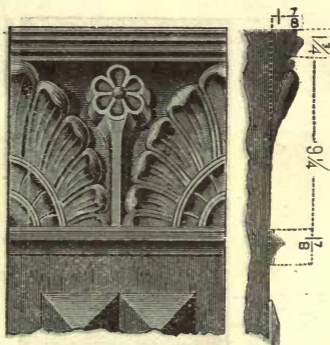


**Cap of Pilaster "C."**

For 4, 5, 6, 8, 10, 12, 14 and 16 inch Face Pilaster.

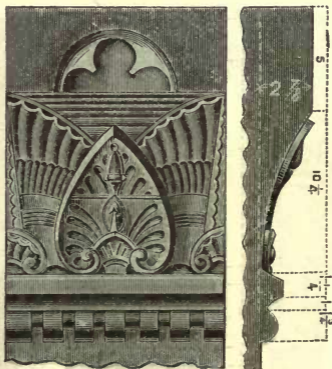
DEARBORN FOUNDRY COMPANY.

PILASTER AND COLUMN CAPITALS.



Column No. 49.

12, 10, 8, 6 and 4 inch Face.

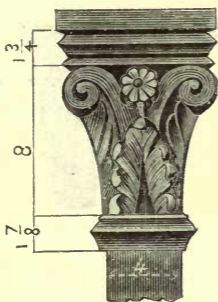


Column "C."

16, 14, 12, 10, 8, 6, 5 and 4 inch Face.

DEARBORN FOUNDRY COMPANY.

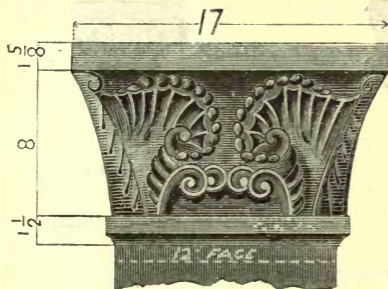
COLUMN CAPITALS.



Cap of Column No. 53.



Cap of Column No. 53.  
For Gas Pipe.



Cap of Column No. 62.

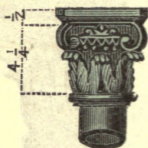


Cap of Column  
No. 36.

4 inch diameter.

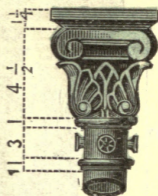
# DEARBORN FOUNDRY COMPANY.

## COLUMN CAPITALS.



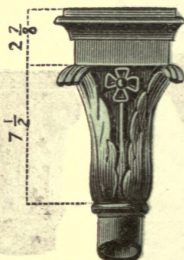
**Cap of Gas Pipe Column,  
No. 49.**

For  $2\frac{1}{2}$  in. Outside Diameter  
Gas Pipe.



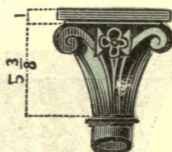
**Cap of Gas Pipe Column,  
"L."**

For  $2\frac{1}{2}$  and 3 in. Outside Diam-  
eter Gas Pipe.



**Cap of Gas Pipe Column,  
Nos. 40 and 41.**

For  $2\frac{1}{2}$  and 3 in. Outside Diam-  
eter Gas Pipe.

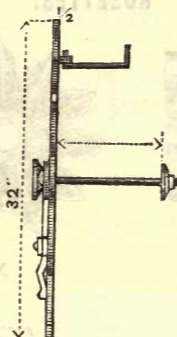
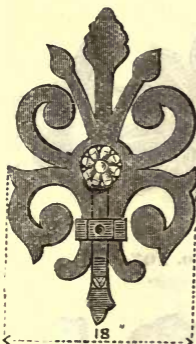


**Cap for Gas Pipe Column,  
No. 51.**

For  $2\frac{1}{2}$  in. Outside Diameter  
Gas Pipe.

DEARBORN FOUNDRY COMPANY.

ORNAMENTAL ANCHORS.



**No. 100.**

Price, \$3.50 each.

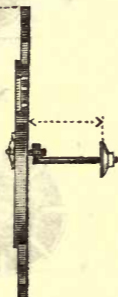
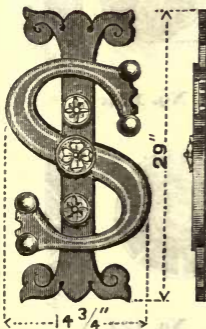
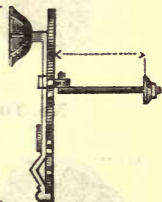
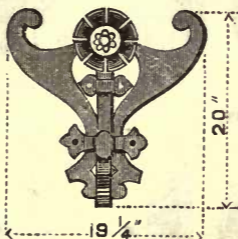
**No. 100 A.**

14" x 23" same design.

Price, \$3.00 each.

**No. 101.**

Price, \$2.50 each.



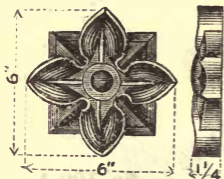
**No. 102.**

Price, \$3.50 each.

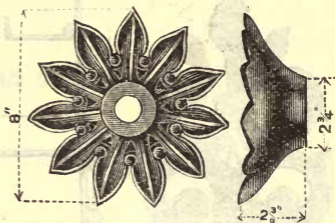
NOTE.—In ordering Ornamental Anchors give thickness of wall.

# DEARBORN FOUNDRY COMPANY.

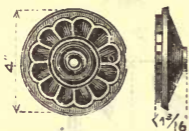
## ROSETTES.



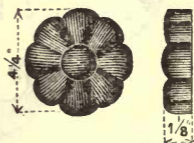
No. 106.



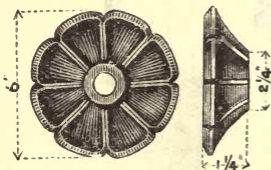
No. 107.



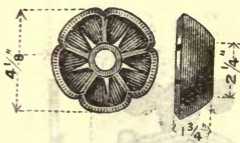
No. 108.



No. 109.



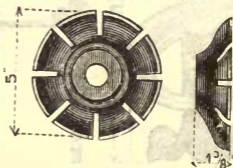
No. 115.



No. 121.



No. 122.



No. 124.

# DEARBORN FOUNDRY COMPANY.

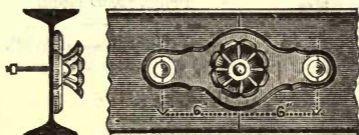
## ROSETTES.



**No. 104.**

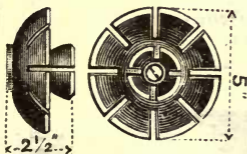
**No. 103.**

Rosettes for 7" Beams.



**Splice Plate No. 105.**

Ornamental Splice Plate for 15", 12" and 10" Beams.



**No. 120.**



**No. 123.**



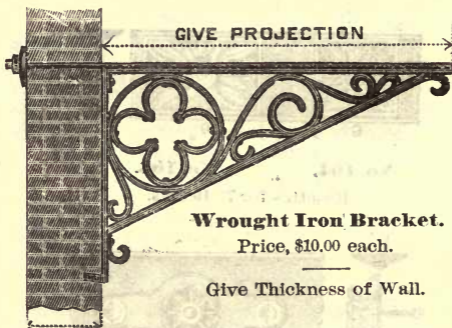
**No. 118.**



**No. 116.**

DEARBORN FOUNDRY COMPANY.

**BRACKETS.**



**Wrought Iron Bracket.**

Price, \$10.00 each.

Give Thickness of Wall.



**Cast Iron Balcony  
Bracket.**

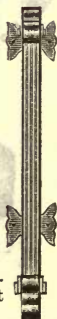
Price, \$7.50 each.



**Balcony Bracket.  
No. 3**

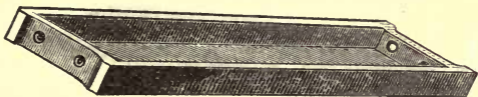
Price, \$20.00

Catalogue of Brackets, Rail-  
ing and Cresting will be sent  
on application.

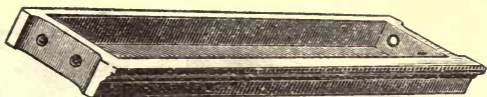


DEARBORN FOUNDRY COMPANY.

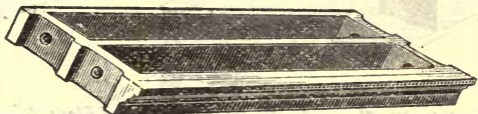
## CAST IRON LINTELS.



Lintel for 12 and 16 inch Wall.



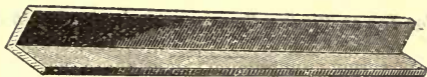
Lintel with Moulded Face for 12 and 16 inch Wall.



Lintel with Moulded Face for 20 and 24 inch Wall.



T Lintel.

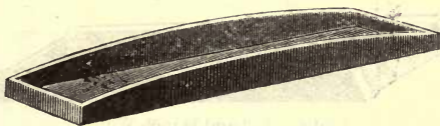


L Lintel.

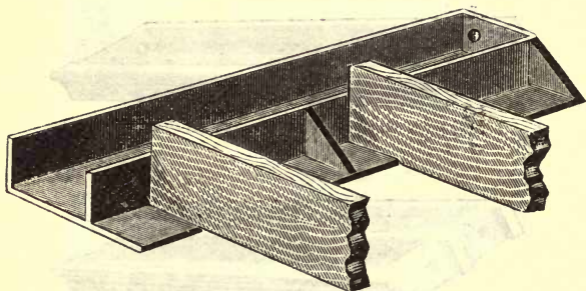
NOTE.—In ordering Lintels give width of same, also length and height of Ribs and thickness of metal.

DEARBORN FOUNDRY COMPANY.

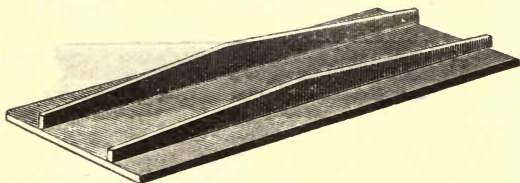
## CAST IRON LINTELS.



*Lintel with Segment Ribs.*



*Lintel with Flange for Supporting Ends of Floor Joists.*





*Lintels for Top of Window Openings, made any length or width.*

In ordering Lintels give width of same, also give lengths and height of ribs and thickness of metal. In case Lintels return on side, state whether flange is to be cast on to support joist as shown in sketch above.



# DEARBORN FOUNDRY COMPANY.

## THE FOLLOWING TABLE GIVES THE SAFE LOAD EQUALLY DISTRIBUTED FOR CAST IRON LINTELS.



In tons of 2,000 lbs. Factor of Safety 8.

Distance between supports in ft.								
	5/8"	3/4"	1"	1 1/4"	5/8"	3/4"	1"	1 1/4"
5	2.79	3.18	3.81	4.30	3.14	3.56	4.26	4.80
6	2.23	2.65	3.17	3.59	2.61	2.97	3.55	4.00
7	2.00	2.27	2.72	3.07	2.24	2.54	3.04	3.43
8	1.74	1.99	2.38	2.69	1.96	2.22	2.66	3.00
9	1.55	1.77	2.11	2.39	1.74	1.98	2.36	2.67
10	1.40	1.59	1.90	2.15	1.57	1.78	2.13	2.40
11	1.27	1.45	1.73	1.95	1.43	1.62	1.93	2.18
12	1.16	1.33	1.59	1.79	1.31	1.48	1.77	2.00

Distance between supports in ft.								
	5/8"	3/4"	1"	1 1/4"	5/8"	3/4"	1"	1 1/4"
5	3.48	3.93	4.69	5.28	3.96	4.52	5.50	6.29
6	2.90	3.27	3.91	4.40	3.30	3.77	4.58	5.24
7	2.49	2.81	3.35	3.77	2.83	3.23	3.93	4.49
8	2.18	2.46	2.93	3.30	2.47	2.83	3.44	3.93
9	1.94	2.18	2.60	2.93	2.20	2.51	3.05	3.49
10	1.74	1.96	2.34	2.64	1.98	2.26	2.75	3.14
11	1.58	1.79	2.13	2.40	1.80	2.05	2.50	2.86
12	1.45	1.64	1.95	2.20	1.65	1.88	2.29	2.62

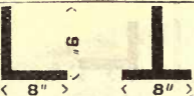
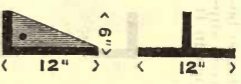
Distance between supports in ft.								
	5/8"	3/4"	1"	1 1/4"	5/8"	3/4"	1"	1 1/4"
5	4.38	5.00	6.07	6.96	5.32	6.12	7.52	8.68
6	3.65	4.17	5.06	5.80	4.43	5.10	6.26	7.23
7	3.13	3.57	4.33	4.97	3.80	4.37	5.37	6.20
8	2.74	3.13	3.79	4.35	3.33	3.83	4.70	5.43
9	2.43	2.78	3.37	3.86	2.96	3.40	4.18	4.82
10	2.19	2.50	3.03	3.48	2.66	3.06	3.76	4.34
11	1.99	2.21	2.76	3.16	2.42	2.78	3.42	3.95
12	1.83	2.08	2.53	2.90	2.22	2.55	3.13	3.67

If the load comes in centre of lintel, ONLY ONE-HALF of these loads should be placed on the lintels. Allowed fibre strain per square inch 3000 lbs.



# DEARBORN FOUNDRY COMPANY.

## THE FOLLOWING TABLE GIVES THE SAFE LOAD EQUALLY DISTRIBUTED FOR CAST IRON LINTELS.



In tons of 2,000 lbs. Factor of Safety 8.

Distance between supports in ft.								
	5/8"	3/4"	1"	1 1/4"	5/8"	3/4"	1"	1 1/4"
5	6.32	7.30	9.04	10.52	4.74	5.30	6.32	6.96
6	5.26	6.08	7.54	8.77	3.95	4.41	5.27	5.80
7	4.51	5.21	6.46	7.52	3.39	3.78	4.52	4.97
8	3.95	4.56	5.65	6.58	2.96	3.31	3.85	4.35
9	3.51	4.05	5.02	5.85	2.63	2.94	3.51	3.87
10	3.16	3.65	4.52	5.26	2.37	2.65	3.16	3.48
11	2.87	3.32	4.11	4.78	2.16	2.41	2.87	3.17
12	2.63	3.04	3.77	4.39	1.98	2.21	2.63	2.90

Distance between supports in ft.								
	5/8"	3/4"	1"	1 1/4"	5/8"	3/4"	1"	1 1/4"
5	4.22	4.68	5.67	6.43	5.65	6.35	7.51	8.61
6	3.54	3.90	4.72	5.36	4.71	5.29	6.26	7.18
7	3.03	3.35	4.05	4.59	4.03	4.53	5.36	6.14
8	2.65	2.93	3.54	4.02	3.53	3.97	4.69	5.38
9	2.36	2.60	3.15	3.58	3.14	3.52	4.17	4.87
10	2.12	2.34	2.84	3.22	2.82	3.17	3.76	4.30
11	1.93	2.13	2.58	2.92	2.57	2.89	3.42	3.92
12	1.77	1.95	2.36	2.68	2.35	2.64	3.13	3.59



Distance between supports in ft.								
	5/8"	3/4"	1"	1 1/4"	5/8"	3/4"	1"	1 1/4"
5	6.27	7.11	8.40	9.60	6.93	7.83	9.37	10.57
6	5.23	5.92	7.00	8.00	5.78	6.52	7.81	8.81
7	4.48	5.08	6.00	6.86	4.95	5.59	6.69	7.55
8	3.92	4.44	5.25	6.00	4.33	4.89	5.86	6.61
9	3.49	3.95	4.67	5.33	3.85	4.35	5.20	5.88
10	3.14	3.55	4.20	4.80	3.47	3.91	4.68	5.29
11	2.85	3.23	3.82	4.36	3.15	3.56	4.26	4.81
12	2.61	2.96	3.50	4.00	2.89	3.26	3.90	4.41

If the load comes in centre of lintel, ONLY ONE-HALF of these loads should be placed on the lintels. Allowed fibre strain per square inch 3000 lbs.



# DEARBORN FOUNDRY COMPANY.

## THE FOLLOWING TABLE GIVES THE SAFE LOAD EQUALLY DISTRIBUTED FOR CAST IRON LINTELS.



In tons of 2,000 lbs. Factor of Safety 8.

Distance between supports in ft.	 LINTEL. 8" deep. 12" wide.				 LINTEL. 8" deep. 14" wide.			
	5/8"	3/4"	1"	1 1/4"	5/8"	3/4"	1"	1 1/4"
5	8.59	9.90	12.17	13.98	9.65	11.09	13.63	15.76
6	7.16	8.25	10.15	11.65	8.04	9.24	11.35	13.13
7	6.14	7.07	8.70	9.99	6.89	7.92	9.73	11.26
8	5.37	6.19	7.61	8.74	6.03	6.93	8.52	9.85
9	4.77	5.50	6.76	7.77	5.36	6.16	7.57	8.76
10	4.30	4.95	6.09	6.99	4.82	5.54	6.81	7.88
11	3.91	4.50	5.53	6.35	4.39	5.04	6.19	7.16
12	3.58	4.13	5.07	5.82	4.02	4.62	5.68	6.57

Distance between supports in ft.	 LINTEL. 8" deep. 16" wide.				 LINTEL. 8" deep. 20" wide.			
	5/8"	3/4"	1"	1 1/4"	5/8"	3/4"	1"	1 1/4"
5	10.66	12.29	14.93	17.36	12.65	14.52	17.75	19.81
6	8.83	10.24	12.44	14.47	10.54	12.10	14.80	16.51
7	7.62	8.78	10.66	12.40	9.03	10.37	12.68	14.15
8	6.66	7.68	9.33	10.85	7.90	9.08	11.10	12.38
9	5.92	6.83	8.29	9.65	7.03	8.07	9.86	11.00
10	5.33	6.14	7.46	8.68	6.32	7.26	8.88	9.90
11	4.85	5.59	6.78	7.89	5.75	6.60	8.07	9.00
12	4.44	5.12	6.22	7.24	5.27	6.05	7.40	8.25



Distance between supports in ft.	 LINTEL. 6" deep. 16" wide.				 LINTEL. 8" deep. 16" wide.			
	3/4"	1"	1 1/4"	1 1/2"	3/4"	1"	1 1/4"	1 1/2"
5	8.67	10.48	11.86	12.95	13.62	16.78	19.40	21.61
6	7.22	8.73	9.89	10.80	11.35	13.98	16.17	18.01
7	6.19	7.48	8.47	9.25	9.73	11.99	13.86	15.44
8	5.42	6.55	7.41	8.10	8.51	10.49	12.13	13.51
9	4.82	5.82	6.59	7.20	7.57	9.32	10.78	12.01
10	4.33	5.24	5.93	6.48	6.81	8.39	9.70	10.81
11	3.94	4.76	5.39	5.89	6.19	7.63	8.22	9.82
12	3.61	4.37	4.94	5.40	5.67	6.99	8.09	9.00

If the load comes in centre of lintel, ONLY ONE-HALF of these loads should be placed on the lintels. Allowed fibre strain per square inch, 3000 lbs.



# DEARBORN FOUNDRY COMPANY.

## THE FOLLOWING TABLE GIVES THE SAFE LOAD EQUALLY DISTRIBUTED FOR CAST IRON LINTELS.

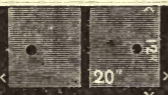
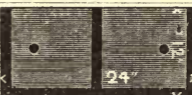
In tons of 2,000 lbs. Factor of Safety 8.

Distance between supports in ft.	 LINTEL. 8" deep. 20" wide.				 LINTEL. 8" deep. 24" wide			
	¾"	1"	1¼"	1½"	¾"	1"	1¼"	1½"
5	16.13	19.74	22.77	25.36	18.38	22.56	26.04	28.94
6	13.36	16.45	18.98	21.14	15.32	18.80	21.70	24.12
7	11.45	14.10	16.29	18.12	13.13	16.11	18.60	20.67
8	10.02	12.34	14.23	15.85	11.49	14.10	16.27	18.09
9	8.91	10.97	12.65	14.09	10.21	12.53	14.47	16.08
10	8.02	9.87	11.39	12.68	9.19	11.28	13.02	14.47
11	7.29	8.97	10.35	11.53	8.35	10.25	11.84	13.15
12	6.68	8.22	9.49	10.57	7.66	9.40	10.85	12.06

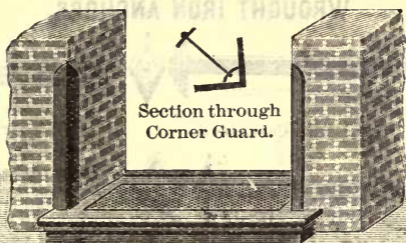
Distance between supports in ft.	 LINTEL. 10" deep. 20" wide.				 LINTEL. 10" deep. 24" wide			
	¾"	1"	1¼"	1½"	¾"	1"	1¼"	1½"
5	22.40	27.94	32.69	37.01	25.56	31.90	36.72	42.09
6	18.66	23.28	27.24	30.84	21.30	26.58	30.60	35.07
7	16.00	19.96	23.35	26.44	18.30	22.97	26.23	30.06
8	14.00	17.46	20.43	23.13	15.98	19.94	22.95	26.30
9	12.44	15.52	18.18	20.56	14.20	17.72	20.40	23.38
10	11.20	13.97	16.35	18.51	12.78	15.95	18.36	21.04
11	10.18	12.70	14.86	16.82	11.62	14.50	16.69	19.13
12	9.50	11.64	13.62	15.42	10.65	13.29	15.30	17.54

Distance between supports in ft.	 LINTEL. 12" deep. 20" wide.				 LINTEL. 12" deep. 24" wide			
	¾"	1"	1¼"	1½"	¾"	1"	1¼"	1½"
5	29.35	36.96	43.76	49.79	33.32	41.85	49.53	56.63
6	24.46	30.80	36.46	41.49	27.77	34.88	41.28	47.19
7	20.96	26.40	31.25	35.56	23.80	29.90	35.38	40.45
8	18.34	23.10	27.35	31.12	20.83	26.16	30.96	35.39
9	16.31	20.53	24.31	27.66	18.51	23.25	27.52	31.46
10	14.67	18.48	21.88	24.89	16.66	20.93	24.77	28.31
11	13.34	16.80	19.89	22.63	15.15	19.02	22.51	25.74
12	12.23	15.40	18.23	20.75	13.89	17.44	20.64	23.60

If the load comes in centre of lintel, ONLY ONE-HALF of these loads should be placed on the lintels. Allowed fibre strain per square inch 3000 lbs.

# DEARBORN FOUNDRY COMPANY.



Section through  
Corner Guard.

View showing Corner Guards for protecting Brick Piers.  
Made any length.



View showing thin Diamond Plates to screw to wood. Stair  
treads made any length or width desired.



Plain cast iron Window Sill. Give width  
of opening.



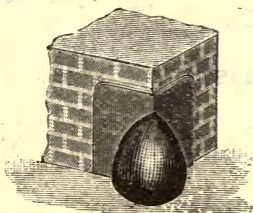
Section.



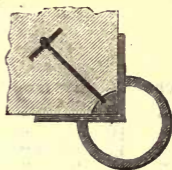
Ornamental cast iron Window Sill.  
Give width of opening.



Section.



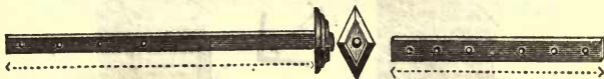
Wagon Wheel Guard.



Section.

# DEARBORN FOUNDRY COMPANY.

## WROUGHT IRON ANCHORS.



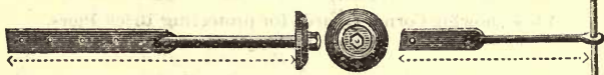
Anchor A with Cast Head.

Girder Strap.



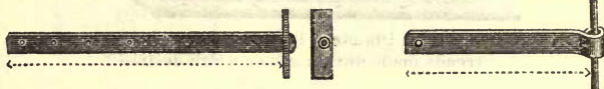
Anchor B with Cast Head.

Timber Strap.



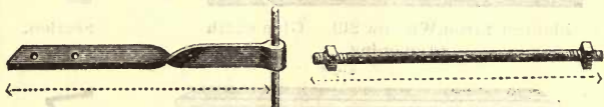
Anchor C with Cast Head.

Round T Anchor F.



Anchor D.

Flat T Anchor G.



Flat T Anchor E.

Tie Rod for I Beams.

### Vault Rods.

### PRICE LIST.

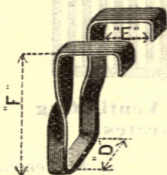
Anchor A, any length.....	
" B, " ".....	
" C, " ".....	
" D, " ".....	
" E, " ".....	
" F, " ".....	
" G, " ".....	
Tie Rod .....	

Give size of Iron wanted for Anchors.

# DEARBORN FOUNDRY COMPANY.

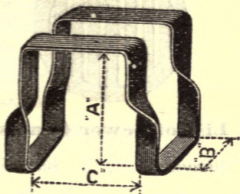
## WROUGHT IRON STIRRUPS.

SINGLE.



Give measurements  
D, E and F.

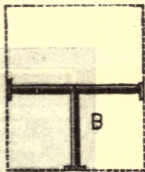
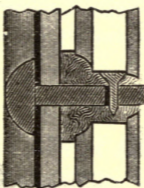
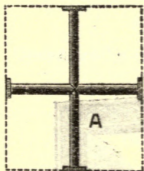
DOUBLE.



Give measurements  
A, B and C.

Also state size of Iron wanted.

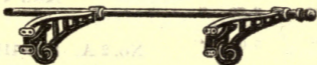
## Wrought Iron Sash Bar.



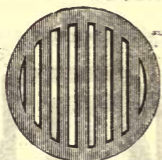
Price Wrought Iron.....	50c. per lineal foot.
Price Silver Plated.....	\$1.00 " " "

In ordering make sketch and give size of Glass.

## Counter Brackets and Railing.

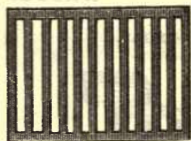


# DEARBORN FOUNDRY COMPANY.



**List of Sewer Grates.**

5" diameter,.....	\$0.15 each.
6" " .....	.20 "
8" " .....	.25 "



**List of Ventilating Grates**

4" x 6" .....	\$0.15 each.
6" x 6" .....	.20 "
6" x 8" .....	.25 "
9" x 9" .....	.30 "
9" x 12" .....	.35 "
12" x 12" .....	.40 "



**Ash-Pit Doors.**

10" high x 12" wide,	\$2.00 each.
12" " x 14" "	2.50 "
12" " x 16" "	3.00 "
15" " x 19" "	3.50 "
18" " x 24" "	5.00 "
14" " x 36" "	6.50 "

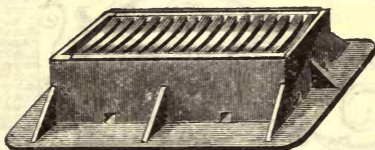


**Ash Chute.**

	EACH.
No. 2 A. Size 11½ x 14½" ....	\$4.00
No. 2 B. Size 15½ x 17¼" ....	6.00

**DEARBORN FOUNDRY COMPANY.**

**SEWER GRATE, FRAME AND HOPPER.**



For Drainage of Street Gutters into Sewer.

Opening 12" x 24" ..... Price each, \$10.50

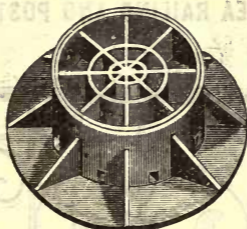
**PARK GRATE, FRAME AND HOPPER.**



For Drainage of Pathways into Sewer.

Opening 8" x 12" ..... Price each, \$4.00

**MAN-HOLE COVER AND FRAME.**



For Entrance in Cleaning Sewers.

Opening 24" diameter ..... Price each, \$13.50

Write for Discount on large orders.

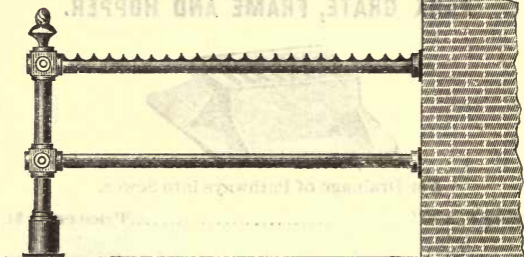
**DEARBORN FOUNDRY COMPANY.**

**CAST IRON AREA GUARD.**



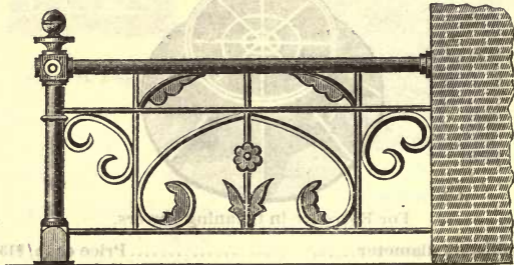
Price.....\$12 00 Each.

**GAS PIPE AREA RAILING AND POST.**



Price .....\$10 00 for 4', 0" Area.

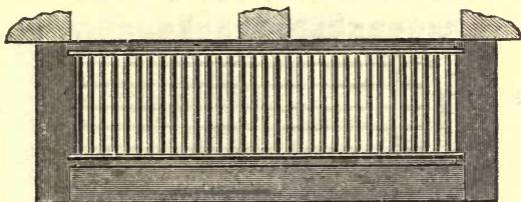
**AREA RAILING AND POST.**



Price .....\$16 00 for 4', 0" Area.

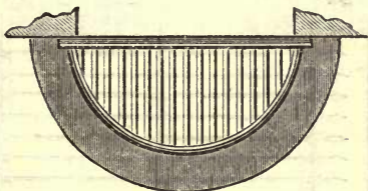
# DEARBORN FOUNDRY COMPANY.

## RECTANGULAR WROUGHT IRON AREA GRATING.



Price per square foot..... \$1.50.

## HALF CIRCLE WROUGHT IRON GRATING.



Price, per square foot..... \$.....

## WROUGHT IRON AREA GRATINGS FOR PLATFORMS.



Price, per square foot..... \$.....

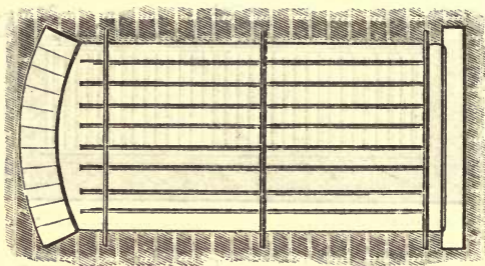
Diamond plates extra.

NOTE.—In ordering, parties will state what size iron they wish to be used, also state size of opening for which they are intended, whether they are to be fastened to wood or stone.

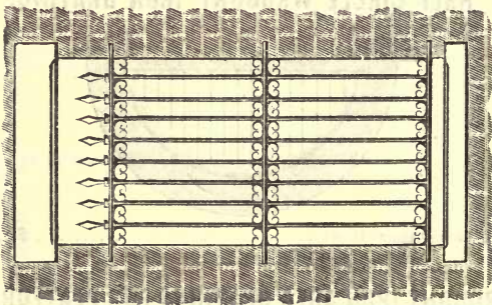
Special estimates given on this class of work promptly, on application.

DEARBORN FOUNDRY COMPANY.

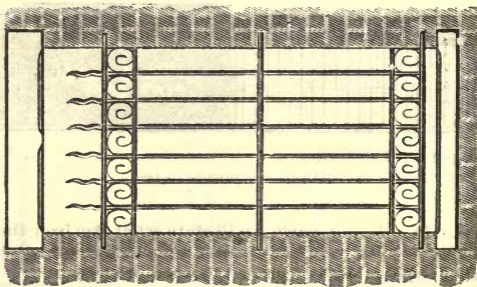
## WROUGHT IRON WINDOW GUARDS



Price per square foot, .....



Price per square foot, .....

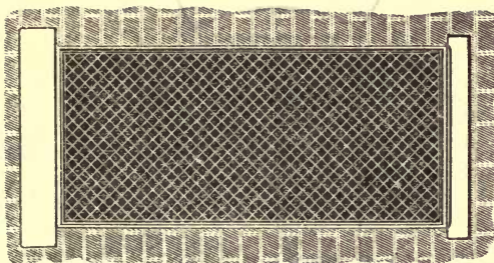


Price per square foot, .....

Estimates will be given on any style parties desire, if they will furnish drawings.

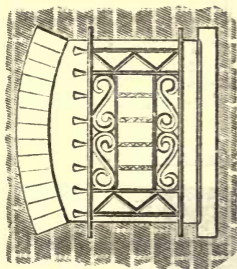
DEARBORN FOUNDRY COMPANY.

# WROUGHT IRON WINDOW GUARDS.

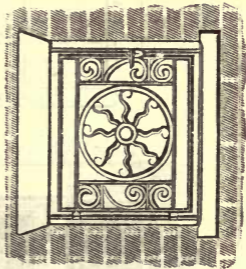


Wire Guards.

Price per square foot, .....

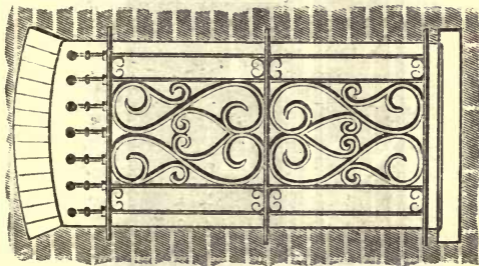


Price Per square foot, .....



Price per square foot, .....

Padlock, \$..... extra.

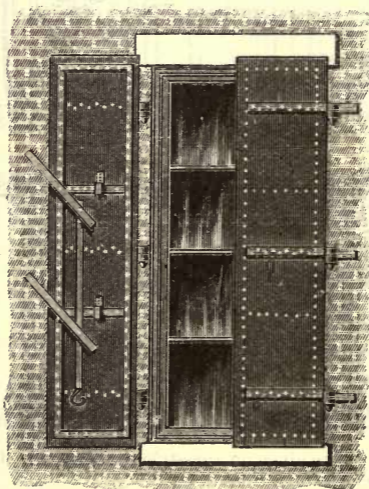
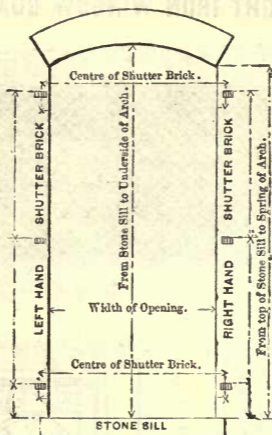


Price per square foot, .....

Estimates will be given on any style parties desire, if they will furnish drawings.

DEARBORN FOUNDRY COMPANY.

WROUGHT IRON SHUTTERS.

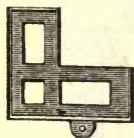


## DEARBORN FOUNDRY COMPANY.

### SEE SKETCH SHOWING FIRE-PROOF SHUTTERS.

Shutters are usually made of  $\frac{1}{2} \times 1\frac{1}{2}$  wrought iron frames, and covered with No. 14 sheet iron, well riveted to frames. Shutters may be made to open from outside; these are mostly used above first story, so that the firemen can open them in case of fire. Shutters for door openings are usually provided with locks and sliding-bolts, top and bottom. In ordering please state if you wish same to be furnished.

In ordering Shutters give measurements as shown in the sketch, viz.: From top of sill to underside of arch; from top of sill to spring of arch; and width of opening, and if shutter-brick are already built in wall, then give height of same from top of sill to top of shutter-brick, also from centre to centre of eye in shutter-brick, as shown in sketch on opposite page.



TOP VIEW.



SIDE VIEW.



TOP VIEW.



SIDE VIEW.

#### Cast Iron Shutter Brick

##### Style A.

#### Cast Iron Shutter Brick

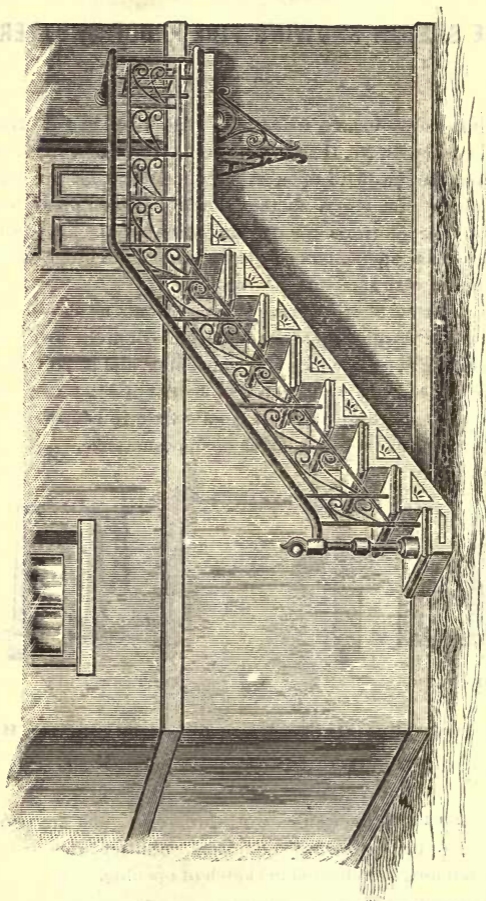
##### Style B.

To build in brick wall as work progresses, and are used for hanging either iron or wood shutters. Shutter-brick are made right and left, as indicated in sketch of opening.

Estimates given on application promptly.

DEARBORN FOUNDRY COMPANY.

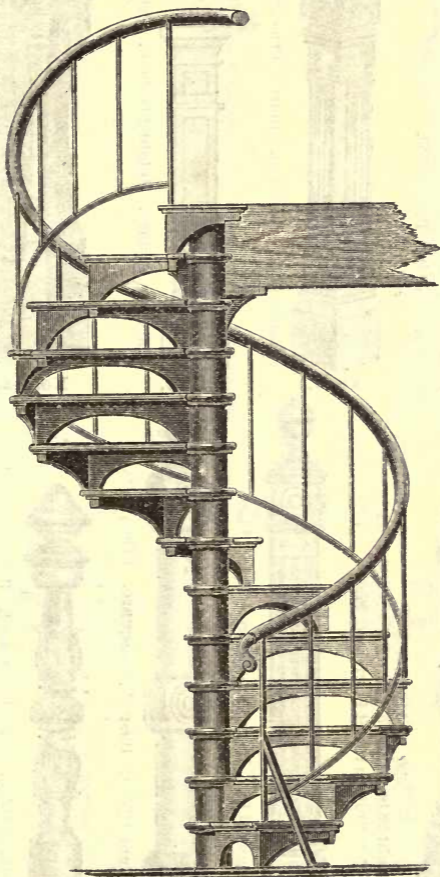
OUTSIDE STAIRS.



Estimates given promptly on application.

DEARBORN FOUNDRY COMPANY.

CIRCULAR STAIRS.



Estimates given promptly on application.

# DEARBORN FOUNDRY COMPANY.



No. 8.

Height 30 in. Price, \$5.50.



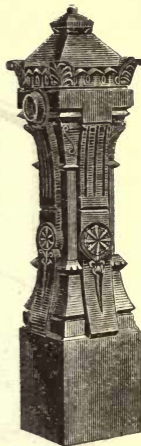
No. 9.

Height 40 in. Base 7 in. square. Price, \$10.00.



No. 22.

Base 7 in. square. Height 2 ft. 10 in. Price, \$8.00.



No. 24.

Height 40 in. Base 8 in. square. Price, \$10.00.



No. 25.

Height 38 in. Base  $5\frac{1}{4}$  in. Price, \$6.00. With Sub-Base to set in ground, \$7.50



No. 31.

Height 44 in. Base 5 in. square. Price, \$6.50.



No. 32.

Height  $43\frac{1}{2}$  in. Base  $4\frac{1}{2}$  in. square. Price, \$5.00.



No. 33.

Height  $35\frac{1}{2}$  in. Base 4 in. round. Price, \$4.50

Special Catalogue of Posts will be sent on application.

DEARBORN FOUNDRY COMPANY.

CAST IRON POSTS AND STANDARDS.



**No. 34.**—Price, \$3.25  
36 in. High;  
Base, 3 in. Round.



**No. 35.**—Price, \$3.25



**No. 28.**—Price, \$7.50  
40 in. High;  
Base, 7 in.

PIPE RAIL BRACKET POSTS.



**No. 36.**—Price, \$2.50  
24¼ in. High.



**No. 37.**—Price, \$2.50  
24¼ in. High.

Special Catalogue of Posts and Railings will be sent on application. Estimates given promptly.

# DEARBORN FOUNDRY COMPANY.

## ROOF CRESTING.

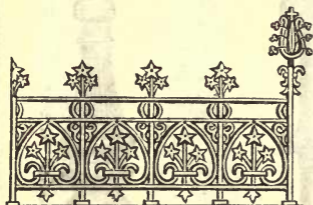
### No. 46.—One Size Only.

18" high, per lineal foot, \$1.00  
 Finial for same, \$2.00 each.



### No. 30.—Five Sizes.

15" high, per lineal foot....	\$ .50
24 " " " " ...	1.10
36 " " " " ...	1.35
42 " " " " ...	1.65
54 " " " " ...	2.00



### No. 38.—Three Sizes.

18" high, per lineal ft. \$	.50
26" " " " " "	.85
35" " " " " "	1.20



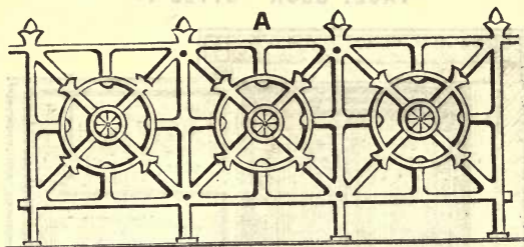
### No. 2.—Two Sizes.

22" high, per lineal foot,	65c.
28" high, per lineal foot,	85c.

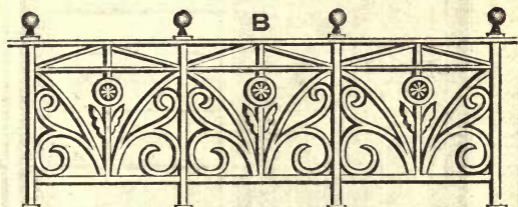
Special Cresting Catalogue will be sent on application.  
 Estimates given promptly.

# DEARBORN FOUNDRY COMPANY.

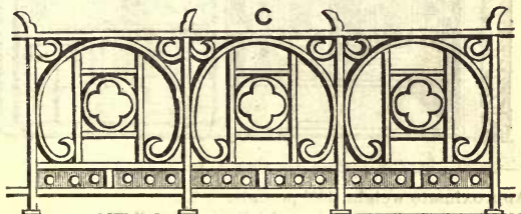
## RAILINGS.



Price per foot.....\$.....



Price per foot.....\$.....

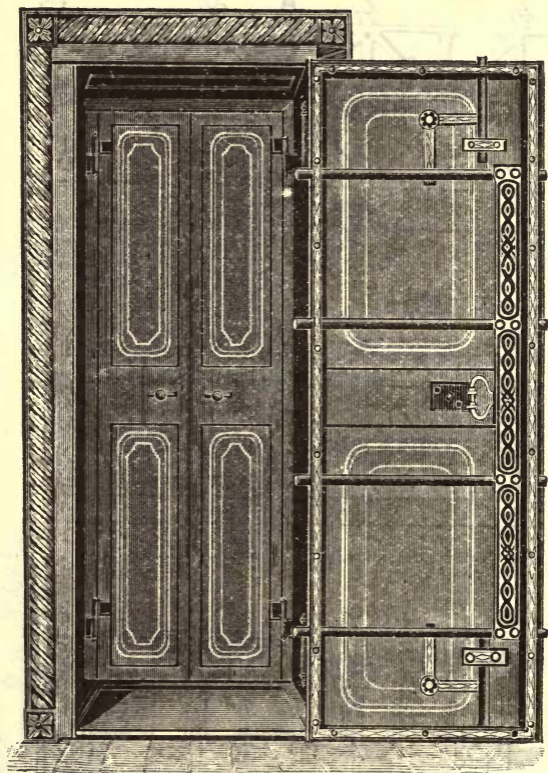


Price per foot.....\$.....

NOTE.—Special Catalogue of Railing and Cresting sent on application. Estimates given promptly.

DEARBORN FOUNDRY COMPANY.

VAULT DOOR "STYLE T."



Approximate weight, 1000 pounds.

Opening in wall, 81 x 34 in.; thickness of wall, 24 in.

Clear opening in door, 78 x 30 in.

Outside dimensions over all, 82 x 39 in.

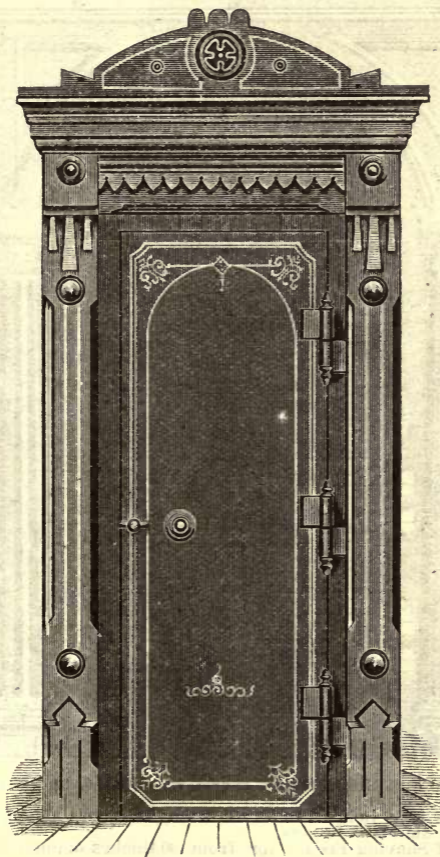
Estimates given promptly.

DEARBORN FOUNDRY COMPANY.

## VAULT DOOR, "STYLE U, EASTLAKE."

Bolt Work same as "Style U, Cottage."

Approximate Weight, 1200 pounds; opening in wall, 81×34 in.; thickness of wall, 24 in.

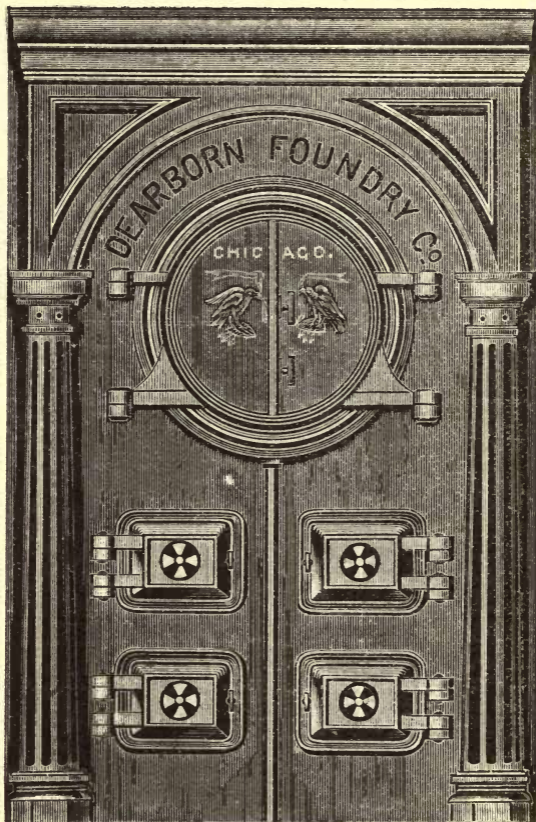


Clear opening in door, 78×30 in.; outside dimensions over all, 107×56 in.

Estimates given promptly.

DEARBORN FOUNDRY COMPANY

BOILER FRONT.



Sizes of Full Boiler Fronts for 36, 42, 48, 54, 60 and 66 inches diameter Boilers.

Sizes of Half Boiler Fronts for from 30 inches diameter to 66 inches diameter Boilers.

Sizes of Shaving Fronts for from 30 inches diameter to 66 inches diameter.

Estimates furnished on application.

## DEARBORN FOUNDRY COMPANY.

### GRATE BARS.



**We have the following sizes of Grate Bars:**

Length, 2'—0"

" 2'—6"

" 3'—0"

Length, 4'—0"

" 4'—6"

" 5'—0"

Length, 5'—6"

" 6'—0"

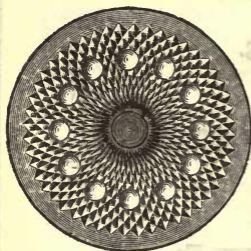
**We also carry in Stock** a large amount of Boiler Fronts and Furnace Castings, namely: Bearing bars, angle bars, top liners, side liners, man-hole rings and plates, hand-hole rings and crabs, boiler lugs and nozzles, skeleton arches, wall binders and rods, large and small soot doors and frames. We also have a large variety of Grate Bars used for different kinds of Fuel, as well as those shown above. Parties wishing to get figures on this class of work, if they will state just what they require, we shall be pleased to quote prices promptly.

We also make **Rubbing Beds** for stone yards, **Castings** used in **Packing Houses, Sugar Refineries**, etc., and in fact anything in the foundry line, which we have every facility for getting out heavy or light castings in short order.

**Estimates** will be given on any of this work promptly.

# DEARBORN FOUNDRY COMPANY.

## COAL HOLE LIGHTS.



Cut of 20 in. Coal Hole Light.

### PRICE LIST.

16 in. diameter, 6 glasses.....	\$2.50
18 in.       "       9       " .....	3.00
20 in.       "       12       " .....	3.50
24 in.       "       12       " .....	5.00
Fastening Bar and Thumb Screw extra.....	.50

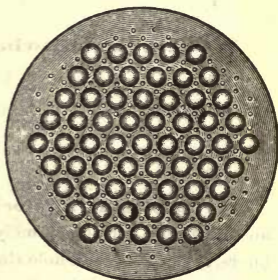
Thimbles for Round Vaults made  
to order.

## ROUND VAULT LIGHTS.

### PRICE LIST.

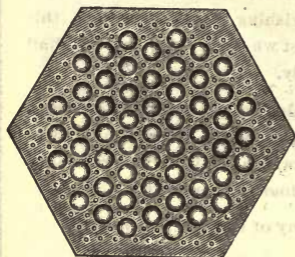
16 in. diam., round, 30 glasses...	\$3.50
18 in.       "       "       36       " ...	5.00
21 in.       "       "       54       " ...	6.50
23 in.       "       "       60       " ...	8.00

The above sizes always on hand.



Cut of 23 in. Round Vault Light.

## HEXAGON VAULT LIGHTS.



Cut of 21 in. Hexagon Vault Light.

### PRICE LIST.

18 in. Hexagon, 43 glasses....	\$5.00
21 in.       "       55       " ....	8.00
25 in.       "       91       " ....	11.00
29 in.       "       133       " ....	15.00

Thimbles or Rings for Hexagon  
Covers made to order.

# DEARBORN FOUNDRY COMPANY.

## RINGS FOR COAL HOLE COVERS AND VAULT LIGHTS.



### PRICE LIST.

Ring for 16 inch Coal Hole Cover.....	\$1.00
“ “ 18 “ “ “ “ .....	1.25
“ “ 20 “ “ “ “ .....	1.50
“ “ 24 “ “ “ “ .....	2.50
Ring for 16 inch round Vault Light.....	\$1.50
“ “ 18 “ “ “ “ .....	2.00
“ “ 21 “ “ “ “ .....	2.50
“ “ 23 “ “ “ “ .....	3.00

Above Rings kept in stock.

## THIMBLES FOR COAL HOLE COVERS, VAULT LIGHTS, ETC.



### PRICE LIST.

Thimble for 16 inch Coal Hole Cover.....	\$1.50
“ “ 18 “ “ “ “ .....	2.00
“ “ 20 “ “ “ “ .....	2.50

Above Thimbles are 4 inches deep.

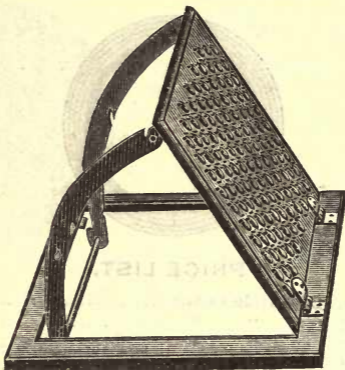
Kept in stock.

*Made to Order at Short Notice.*

Deeper Thimbles to go through brick arches, cistern tops, &c.  
Price according to size and depth.

## DEARBORN FOUNDRY COMPANY.

### VENTILATING DOORS.



Cut Showing Construction of Ventilating Door.

#### PRICE LIST.

Small Ventilating Door, 22 inches square, 16 inch square opening, 37 glasses .....	\$12.00
Medium Ventilating Door, 26 inches square, 20 inch square opening, 63 glasses .....	\$16.00
Large Ventilating Door, 30 inches square, 24 inch square opening, 103 glasses .....	\$20.00

These doors are self-locking and water tight when closed, and protect the hole when open.

Above sizes kept in stock.

### SOLID IRON COAL HOLE COVERS.

#### PRICE LIST.



Cut of 20 inch Solid Cover.

16 inch diameter .....	\$1.50
18 " " .....	2.00
20 " " .....	2.50
24 " " .....	4.00
Fastening bar and thumb screw, extra .....	.50

For Rings for solid covers, see page 97.

Above sizes always on hand.

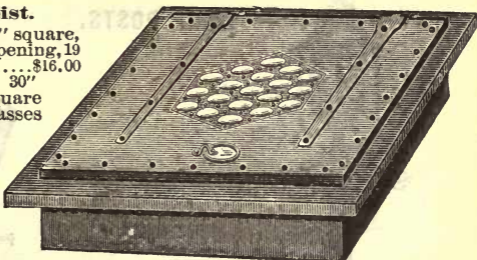
Estimates given promptly on Prismatic light work for platforms or other construction, if parties will send drawing of what they require.

## DEARBORN FOUNDRY COMPANY.

### WROUGHT IRON COAL HOLE DOOR.

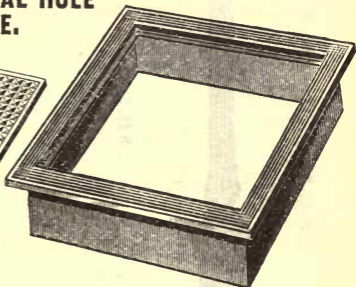
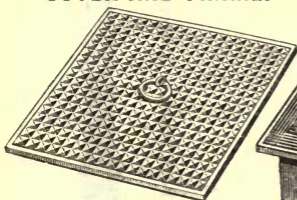
#### Price List.

Small Door, 26" square,  
20" square opening, 19  
glasses .....\$16.00  
Large Door, 30"  
square, 24" square  
opening, 19 glasses  
\$20.00



These doors are made very strong, for rough usage; have a very heavy cast iron frame, with thimble 7 inches deep, and wrought iron door made from  $\frac{1}{4}$  inch boiler iron, well supported with angle iron. They are well adapted for taking in steam coal or small freight, are water tight when closed, and lock with a bolt on under side. Above sizes kept in stock. Other sizes made to order.

### SOLID IRON ALLEY COAL HOLE COVER AND FRAME.



#### Price List.

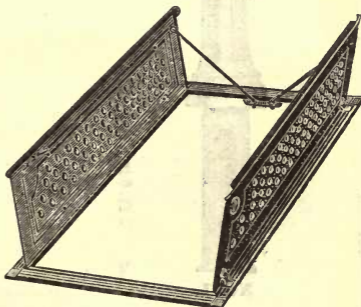
No. 1, 26" square, 20" square  
opening, .....\$15.00  
No. 2, 30" square, 24" square  
opening .....\$20.00

These covers are very strong and can be driven over with heavy loads.

### TRAP DOORS.

This cut represents Trap Doors for use over basement stairs, slides, sidewalk elevators, etc.

Are water tight when closed, and fitted with strong brass hinges and hooks to hold them open, and bolt to fasten them when closed.



# DEARBORN FOUNDRY COMPANY.

## LAMP POSTS.

Post, \$15.00    Lantern, \$12.50 Each.



2 ft. 6 in. 8 ft. 2½ in.

No. 1.

Post, \$12.50.    Lantern, \$6.00 Each.

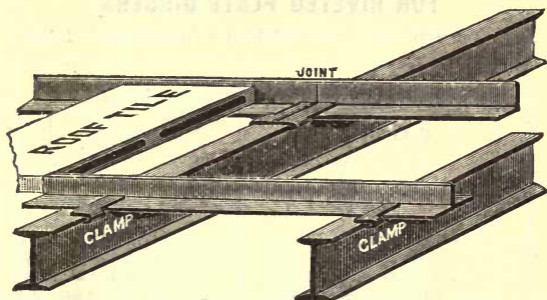


2 ft. 8 in. 8 ft. 2 in.

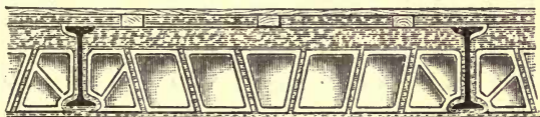
No. 2.

## DEARBORN FOUNDRY COMPANY.

### SECTIONS OF FIRE-PROOF CONSTRUCTION.



Dearborn Foundry Company's Patent Metal Clamp for attaching roof purlins to roof beams.



This view shows a fire-proof floor constructed with hollow tile arches, leveled up with concrete, having wooden strips bedded in the concrete to receive the flooring nails.



This view shows a fire-proof floor as ordinarily constructed, with brick arches, leveled up with concrete, having wooden strips bedded in the concrete to receive the flooring nails.



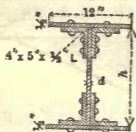
This view shows a fire-proof floor constructed with corrugated iron arches, leveled up with concrete, having wooden strips bedded in the concrete to receive the flooring nails.

# DEARBORN FOUNDRY COMPANY.

## SAFE UNIFORMLY DISTRIBUTED STATIONARY LOAD FOR RIVETED PLATE GIRDERS.

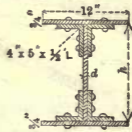
In tons of 2,000 lbs.       $w$  = weight per lineal foot of girder.

Length of Girder in ft. between supports =  $l$ .



$d = \frac{5}{8}$  for  $l = 10'$  to  $14'$   
 $d = \frac{1}{2}$  for  $l = 15'$  to  $20'$   
 $d = \frac{3}{8}$  for  $l = 21'$  to  $40'$

Rivets  $\frac{3}{4}$ " diam. 2" pitch at ends  
for 1-4; then 4" pitch, staggered.



$d = \frac{5}{8}$  for  $l = 10'$  to  $14'$   
 $d = \frac{1}{2}$  for  $l = 15'$  to  $20'$   
 $d = \frac{3}{8}$  for  $l = 21'$  to  $40'$

Rivets  $\frac{7}{8}$ " diam. 2" pitch at ends  
for 1-4; then 4" pitch, staggered.

$h = 1' 4"$   
 $w = \begin{cases} 136 \text{ lbs.} \\ 130 \text{ " } \\ 123 \text{ " } \end{cases}$

**No. 1**

$h = 1' 8"$   
 $w = \begin{cases} 144 \text{ lbs.} \\ 136 \text{ " } \\ 128 \text{ " } \end{cases}$

**No. 2**

$h = 2' 0"$   
 $w = \begin{cases} 152 \text{ lbs.} \\ 142 \text{ " } \\ 132 \text{ " } \end{cases}$

**No. 3**

$h = 1' 4"$   
 $w = \begin{cases} 160 \text{ lbs.} \\ 153 \text{ " } \\ 146 \text{ " } \end{cases}$

**No. 4**

$h = 1' 8"$   
 $w = \begin{cases} 168 \text{ lbs.} \\ 159 \text{ " } \\ 151 \text{ " } \end{cases}$

**No. 5**

$h = 2' 0"$   
 $w = \begin{cases} 176 \text{ lbs.} \\ 166 \text{ " } \\ 156 \text{ " } \end{cases}$

**No. 6**

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21  
20

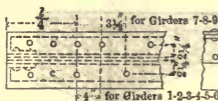
98  
81  
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41  
38  
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26  
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118  
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142  
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71  
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35



Allowed fibre strain per  
square inch of gross section = 10,000 lbs.

All girders are provided  
with a pair of stiffeners  
( $3\frac{1}{2}$ "  $\times$  5"  $\times$   $\frac{1}{2}$ ") at each end.

Girders from 15' to 20'

have another pair of stiffeners ( $3\frac{1}{2}$ "  $\times$   $3\frac{1}{2}$ "  $\times$   $\frac{1}{2}$ ") in distance =  $h$  from each end.

Girders from 21' to 40' have a third pair of stiffeners ( $3\frac{1}{2}$ "  $\times$   $3\frac{1}{2}$ "  $\times$   $\frac{1}{2}$ ") in distance =  $2\frac{1}{2}h$  from each end.

# DEARBORN FOUNDRY COMPANY.

## SAFE UNIFORMLY DISTRIBUTED STATIONARY LOAD FOR RIVETED PLATE GIRDERS.

In tons of 2,000 lbs.  $w$ =weight per lineal foot of girder.

Length of Girder in ft. between supports= $l$ .



$d = \frac{3}{4}$  for  $l = 10'$  to  $14'$   
 $d = \frac{1}{2}$  for  $l = 15'$  to  $20'$   
 $d = \frac{1}{2}$  for  $l = 21'$  to  $40'$

Rivets  $\frac{3}{4}$ " diam.  $1\frac{1}{4}$ " pitch at ends  
for  $l+4$ ; then  $3\frac{1}{2}$ " pitch, staggered.



$d = \frac{3}{4}$  for  $l = 10'$  to  $14'$   
 $d = \frac{1}{2}$  for  $l = 15'$  to  $20'$   
 $d = \frac{3}{8}$  for  $l = 21'$  to  $40'$

Rivets  $\frac{3}{4}$ " diam.  $1\frac{1}{4}$ " pitch at ends  
for  $l+4$ ; then  $3\frac{1}{2}$ " pitch, staggered.

$h=1' 4"$   
 $\left\{ \begin{array}{l} 204 \text{ lbs.} \\ 197 \text{ " } \\ 190 \text{ " } \end{array} \right.$   
 $w =$

**No. 7**

$h=1' 8"$   
 $\left\{ \begin{array}{l} 214 \text{ lbs.} \\ 204 \text{ " } \\ 197 \text{ " } \end{array} \right.$   
 $w =$

**No. 8**

$h=2' 0"$   
 $\left\{ \begin{array}{l} 224 \text{ lbs.} \\ 214 \text{ " } \\ 204 \text{ " } \end{array} \right.$   
 $w =$

**No. 9**

$h=1' 4"$   
 $\left\{ \begin{array}{l} 145 \text{ lbs.} \\ 138 \text{ " } \\ 131 \text{ " } \end{array} \right.$   
 $w =$

**No. 10**

$h=1' 8"$   
 $\left\{ \begin{array}{l} 153 \text{ lbs.} \\ 145 \text{ " } \\ 136 \text{ " } \end{array} \right.$   
 $w =$

**No. 11**

$h=2' 0"$   
 $\left\{ \begin{array}{l} 161 \text{ lbs.} \\ 151 \text{ " } \\ 141 \text{ " } \end{array} \right.$   
 $w =$

**No. 12**

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122  
101  
87  
76  
68  
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41  
38  
36  
34  
32  
31

153  
123  
109  
95  
85  
77  
70  
64  
59  
55  
51  
48  
45  
43  
40  
38

184  
153  
131  
115  
102  
92  
84  
77  
71  
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61  
58  
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83  
69  
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105  
87  
75  
65  
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31  
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26

126  
104  
90  
78  
70  
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31

Allowed fibre strain per square inch of gross section=10,000 lbs.

All girders are provided with a pair of stiffeners ( $3\frac{1}{2}" \times 5" \times \frac{1}{2}" L$ ) at each end.

Girders from 15' to 20' have another pair of stiffeners ( $3\frac{1}{2}" \times 3\frac{1}{2}" \times \frac{1}{2}"$ ) in distance= $h$  from each end.

Girders from 21' to 40' have a third pair of stiffeners ( $3\frac{1}{2}" \times 3\frac{1}{2}" \times \frac{1}{2}"$ ) in distance= $2\frac{1}{2} h$  from each end.

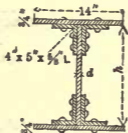
The weight of the stiffeners is not included in the weight per lineal foot given in tables.

# DEARBORN FOUNDRY COMPANY.

## SAFE UNIFORMLY DISTRIBUTED STATIONARY LOAD FOR RIVETED PLATE GIRDERS.

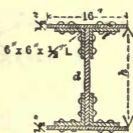
In tons of 2,000 lbs.  $w$ =weight per lineal foot of girder.

Length of Girder in ft. between supports= $l$ .



$d = \frac{3}{4}$  for  $l = 10'$  to  $14'$   
 $d = \frac{9}{16}$  for  $l = 15'$  to  $20'$   
 $d = \frac{7}{8}$  for  $l = 21'$  to  $40'$

Rivets  $\frac{7}{8}$ " diam.  $1\frac{3}{4}$ " pitch at ends  
for  $l+4$ ; then  $3\frac{1}{2}$ " pitch, staggered.



$d = \frac{3}{4}$  for  $l = 10'$  to  $14'$   
 $d = \frac{9}{16}$  for  $l = 15'$  to  $20'$   
 $d = \frac{7}{8}$  for  $l = 21'$  to  $40'$

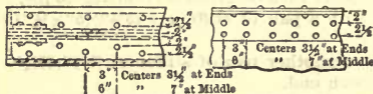
Rivets  $\frac{7}{8}$ " diam.  $3\frac{1}{2}$ " pitch at ends  
for  $l+4$ ; then 7" pitch.

$h = 1' 4"$ $w = \begin{cases} 193 \text{ lbs.} \\ 183 \text{ " } \\ 176 \text{ " } \end{cases}$	$h = 1' 8"$ $w = \begin{cases} 203 \text{ lbs.} \\ 190 \text{ " } \\ 182 \text{ " } \end{cases}$	$h = 2' 0"$ $w = \begin{cases} 213 \text{ lbs.} \\ 198 \text{ " } \\ 188 \text{ " } \end{cases}$
---	---	---

$h = 1' 8"$ $w = \begin{cases} 184 \text{ lbs.} \\ 171 \text{ " } \\ 163 \text{ " } \end{cases}$	$h = 2' 0"$ $w = \begin{cases} 193 \text{ lbs.} \\ 178 \text{ " } \\ 168 \text{ " } \end{cases}$	$h = 2' 4"$ $w = \begin{cases} 203 \text{ lbs.} \\ 185 \text{ " } \\ 173 \text{ " } \end{cases}$
---	---	---

**No. 13      No. 14      No. 15      No. 19      No. 20      No. 21**

10	114	143	172	130	156	182
12	95	119	143	108	130	152
14	81	102	123	93	111	130
16	71	90	108	81	97	114
18	63	80	96	72	87	101
20	57	72	86	65	78	91
22	52	65	78	59	71	83
24	48	60	72	54	65	76
26	44	55	66	50	60	70
28	41	51	61	46	56	65
30	38	48	57	43	52	61
32	36	45	54	41	49	57
34	34	42	51	38	46	54
36	32	40	48	36	43	51
38	30	38	45	34	41	48
40	29	36	43	32	39	46



Allowed fibre strain per square inch of gross section=10,000 lbs.

All girders are provided with a pair of stiffeners ( $4'' \times 6'' \times \frac{1}{2}''$ ) at each end.

Girders from 15' to 20'

have another pair of stiffeners ( $3\frac{1}{2}'' \times 4'' \times \frac{1}{2}''$ ) in distance= $h$  from each end.

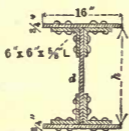
Girders from 21' to 40' have a third pair of stiffeners ( $3\frac{1}{2}'' \times 4'' \times \frac{3}{8}''$ ) in distance= $2\frac{1}{2}h$  from each end.

# DEARBORN FOUNDRY COMPANY.

## SAFE UNIFORMLY DISTRIBUTED STATIONARY LOAD FOR RIVETED PLATE GIRDERS.

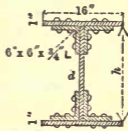
In tons of 2,000 lbs.       $w$ =weight per lineal foot of girder.

Length of Girder in ft. between supports= $l$ .



$d = \frac{7}{8}$ " for  $l = 12'$  to  $14'$   
 $d = \frac{11}{16}$ " for  $l = 15'$  to  $21'$   
 $d = \frac{1}{2}$ " for  $l = 22'$  to  $40'$

Rivets  $\frac{3}{8}$ " diam. 3" pitch at ends  
 for  $l+4$ ; then 6" pitch.



$d = \frac{7}{8}$ " for  $l = 14'$  to  $18'$   
 $d = \frac{11}{16}$ " for  $l = 19'$  to  $27'$   
 $d = \frac{1}{2}$ " for  $l = 28'$  to  $40'$

Rivets  $\frac{7}{8}$ " diam. 3" pitch at ends  
 for  $l+4$ ; then 6" pitch.

$h = 1' 8"$   
 $w = \begin{cases} 246 \text{ lbs.} \\ 233 \text{ " } \\ 221 \text{ " } \end{cases}$

**No. 22**

$h = 2' 0"$   
 $w = \begin{cases} 262 \text{ lbs.} \\ 246 \text{ " } \\ 230 \text{ " } \end{cases}$

**No. 23**

$h = 2' 4"$   
 $w = \begin{cases} 269 \text{ lbs.} \\ 252 \text{ " } \\ 234 \text{ " } \end{cases}$

**No. 24**

$h = 1' 8"$   
 $w = \begin{cases} 292 \text{ lbs.} \\ 280 \text{ " } \\ 267 \text{ " } \end{cases}$

**No. 25**

$h = 2' 0"$   
 $w = \begin{cases} 304 \text{ lbs.} \\ 289 \text{ " } \\ 274 \text{ " } \end{cases}$

**No. 26**

$h = 2' 4"$   
 $w = \begin{cases} 316 \text{ lbs.} \\ 298 \text{ " } \\ 281 \text{ " } \end{cases}$

**No. 27**

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126  
111  
98  
88  
81  
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68  
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44

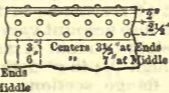
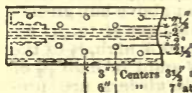
177  
151  
133  
118  
106  
96  
88  
82  
76  
71  
66  
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53

207  
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155  
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124  
113  
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73  
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62

160  
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102  
93  
86  
80  
75  
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66  
62  
59  
56

191  
168  
149  
134  
122  
112  
103  
96  
89  
84  
79  
74  
70  
67

224  
196  
174  
157  
142  
130  
120  
112  
104  
98  
92  
87  
82  
78



Allowed fibre strain per square inch of gross section=10,000 lbs.

All girders are provided with a pair of stiffeners ( $4'' \times 6'' \times \frac{1}{2}''$ ) at each end.

Girders from 15' to 20'

have another pair of stiffeners ( $3\frac{1}{2}'' \times 4'' \times \frac{1}{2}''$ ) in distance= $h$  from each end.

Girders from 21' to 40' have a third pair of stiffeners ( $3\frac{1}{2}'' \times 4'' \times \frac{1}{2}''$ ) in distance= $2\frac{1}{2}h$  from each end.

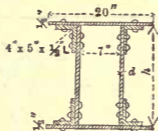
# DEARBORN FOUNDRY COMPANY.

## SAFE UNIFORMLY DISTRIBUTED STATIONARY LOAD FOR RIVETED BOX GIRDERS.

In tons of 2,000 lbs.

w=weight per lineal ft. of girder.

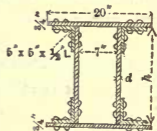
Length of Box Girder in ft. between supports = l.



d =  $\frac{3}{8}$ " except where marked different.  
16' to 30' {  $\frac{3}{4}$ " rivets  $1\frac{1}{4}$ " pitch at ends for  
1+4, then  $3\frac{1}{2}$ " pitch staggered.  
31' to 50' {  $\frac{3}{4}$ " rivets  $2\frac{1}{2}$ " pitch at ends for  
1+4, then 5" pitch staggered.

h=1' 8" w=182 lbs.	h=2' 0" w=192 lbs.	h=2' 6" w={ 232 lbs. 207 lbs.	h=3' 0" w={ 252 lbs. 222 lbs.
-----------------------	-----------------------	-------------------------------------	-------------------------------------

No. 28 No. 29 No. 30 No. 31



d =  $\frac{3}{8}$ " except where marked different.  
16' to 30' {  $\frac{3}{4}$ " rivets  $1\frac{1}{2}$ " pitch at ends for  
1+4, then 3" pitch staggered.  
31' to 50' {  $\frac{3}{4}$ " rivets  $2\frac{1}{2}$ " pitch at ends for  
1+4, then 5" pitch staggered.

h=1' 8" w=223 lbs.	h=2' 0" w=233 lbs.	h=2' 6" w={ 273 lbs. 248 lbs.	h=3' 0" w={ 323 lbs. 293 lbs.
-----------------------	-----------------------	-------------------------------------	-------------------------------------

No. 32 No. 33 No. 34 No. 35

16	83	101	136	174	107	130	172	226
18	74	90	122	155	95	116	153	201
20	66	81	104	139	86	104	137	181
22	60	73	95	127	78	95	125	158
24	55	67	87	116	71	87	115	145
26	51	62	80	107	66	80	102	134
28	48	58	74	97	61	74	95	125
30	44	54	69	89	57	69	89	116
32	41	51	65	83	54	65	84	109
34	39	48	61	78	50	61	79	103
36	37	45	58	74	48	58	74	95
38	35	43	55	70	45	55	70	89
40	33	40	52	66	43	52	67	84
42	31	38	50	63	41	50	64	80
44	30	37	47	60	39	47	61	76
46	29	35	45	58	37	45	58	73
48	28	34	43	55	36	43	56	70
50	27	32	42	53	34	42	53	67

Allowed fiber strain per square in. of gross section = 10,000 lbs.

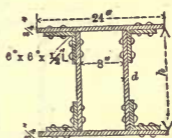
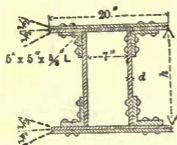
In figuring the moment of resistance of the above box girders a part of the web is taken into account varying from  $\frac{1}{8}$  to  $\frac{1}{2}$ , according to the different heights, so that in girders 3' high,  $\frac{1}{2}$  of the web area; in girders 2' 6" high  $\frac{1}{10}$ ; in girders 2' and 1' 8" high  $\frac{1}{12}$  of the area is added to the flange section. All girders are provided with a pair of stiffeners ( $3\frac{1}{2}$ " x 5" x  $\frac{1}{2}$ ") at each end, and a second pair ( $3\frac{1}{2}$ " x 3 $\frac{1}{2}$ " x  $\frac{1}{2}$ ") in distance = h from each end. Girders from 30' to 50' have a third pair of stiffeners ( $3\frac{1}{2}$ " x 3 $\frac{1}{2}$ " x  $\frac{3}{8}$ ") in distance = 2 $\frac{1}{2}$  h from each end. The weight of the stiffeners is not included in the weight per lineal foot given in tables.

# DEARBORN FOUNDRY COMPANY.

## SAFE UNIFORMLY DISTRIBUTED STATIONARY LOAD FOR RIVETED BOX GIRDERS.

In tons of 2,000 lbs.  $w$  = weight per lineal ft. of girder.

Length of Box Girder in ft. between supports =  $l$ .



$d = \frac{3}{8}$ " except where marked different.  
 16' to 30'  $\left\{ \begin{array}{l} \frac{7}{8}" \text{ rivets } 1\frac{1}{2}" \text{ pitch at ends for } \\ 1+4, \text{ then } 3" \text{ pitch staggered.} \end{array} \right.$   
 31' to 50'  $\left\{ \begin{array}{l} \frac{7}{8}" \text{ rivets } 2\frac{1}{2}" \text{ pitch at ends for } \\ 1+4, \text{ then } 5" \text{ pitch staggered.} \end{array} \right.$

$d = \frac{3}{8}$ " except where marked different.  
 16' to 30'  $\left\{ \begin{array}{l} \frac{7}{8}" \text{ rivets } 1\frac{1}{2}" \text{ pitch at ends for } \\ 1+4, \text{ then } 3" \text{ pitch staggered.} \end{array} \right.$   
 31' to 50'  $\left\{ \begin{array}{l} \frac{7}{8}" \text{ rivets } 2\frac{1}{2}" \text{ pitch at ends for } \\ 1+4, \text{ then } 5" \text{ pitch staggered.} \end{array} \right.$

	$h = 1' 8"$ $w = \left\{ \begin{array}{l} 301 \text{ lbs.} \\ 284 \text{ lbs.} \end{array} \right.$	$h = 2' 0"$ $w = \left\{ \begin{array}{l} 315 \text{ lbs.} \\ 294 \text{ lbs.} \end{array} \right.$	$h = 2' 6"$ $w = \left\{ \begin{array}{l} 350 \text{ lbs.} \\ 334 \text{ lbs.} \\ 305 \text{ lbs.} \end{array} \right.$	$h = 3' 0"$ $w = \left\{ \begin{array}{l} 384 \text{ lbs.} \\ 352 \text{ lbs.} \\ 320 \text{ lbs.} \end{array} \right.$	$h = 2' 0"$ $w = \left\{ \begin{array}{l} 296 \text{ lbs.} \\ 275 \text{ lbs.} \end{array} \right.$	$h = 2' 6"$ $w = \left\{ \begin{array}{l} 316 \text{ lbs.} \\ 290 \text{ lbs.} \end{array} \right.$	$h = 3' 0"$ $w = \left\{ \begin{array}{l} 366 \text{ lbs.} \\ 335 \text{ lbs.} \\ 303 \text{ lbs.} \end{array} \right.$	$h = 4' 0"$ $w = \left\{ \begin{array}{l} 416 \text{ lbs.} \\ 372 \text{ lbs.} \end{array} \right.$
	No. 36	No. 37	No. 38	No. 39	No. 40	No. 41	No. 42	No. 43
16	140	170	224	283	158	203	264	.....
18	122	151	199	252	140	180	235	.....
20	110	136	175	226	124	162	211	296
22	100	121	159	206	113	148	192	269
24	91	111	146	189	103	135	171	247
26	84	103	135	169	95	125	157	228
28	78	95	125	157	89	111	146	211
30	73	89	117	146	83	103	136	197
32	69	84	107	137	78	97	127	177
34	65	79	101	129	73	91	120	167
36	61	74	95	121	69	86	114	158
38	58	70	90	115	65	82	108	149
40	55	67	86	110	62	78	99	142
42	52	64	81	101	59	74	94	135
44	50	61	78	97	56	71	90	129
46	48	58	74	93	54	68	86	123
48	46	56	71	89	52	65	82	118
50	44	53	68	85	50	62	79	114

Allowed fiber strain per square in. of gross section = 10,000 lbs.

In figuring the moment of resistance of the above box girders a part of the web is taken into account varying from  $\frac{1}{8}$  to  $\frac{1}{2}$ , according to the different heights, so that in girders 3' and 4' high,  $\frac{1}{8}$  of the web area; in girders 2' 6" high  $\frac{1}{10}$ ; in girders 2' and 1' 8" high  $\frac{1}{12}$  of the area is added to the flange section. All girders are provided with a pair of stiffeners ( $3\frac{1}{2}" \times 5" \times \frac{1}{2}$ ) at each end, and a second pair ( $3\frac{1}{2}" \times 3\frac{1}{2}" \times \frac{1}{2}$ ) in distance =  $h$  from each end. Girders from 30' to 50' have a third pair of stiffeners ( $3\frac{1}{2}" \times 3\frac{1}{2}" \times \frac{3}{8}$ ) in distance =  $2\frac{1}{2} h$  from each end. The weight of the stiffeners is not included in the weight per lineal foot given in tables.

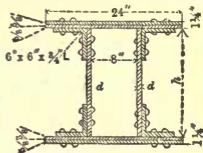
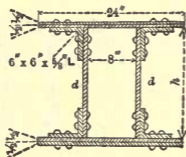
# DEARBORN FOUNDRY COMPANY.

## SAFE UNIFORMLY DISTRIBUTED STATIONARY LOAD FOR RIVETED BOX GIRDERS.

In tons of 2,000 lbs.

w = weight per lineal ft. of girder.

Length of Box Girder in ft. between supports = l.



d =  $\frac{3}{8}$ " except where marked different.  
 16' to 30' {  $\frac{7}{8}$ " rivets  $1\frac{1}{2}$ " pitch at ends for  
 1 + 4, then 3" pitch staggered.  
 31' to 50' {  $\frac{7}{8}$ " rivets  $2\frac{1}{2}$ " pitch at ends for  
 1 + 4, then 5" pitch staggered.

d =  $\frac{3}{8}$ " except where marked different.  
 16' to 19' { 1" rivets  $1\frac{1}{2}$ " pitch at ends for  
 1 + 4, then  $3\frac{1}{2}$ " pitch staggered.  
 20' to 39' {  $\frac{7}{8}$ " rivets  $1\frac{1}{2}$ " pitch at ends for  
 1 + 4, then 3" pitch staggered.  
 40' to 50' {  $\frac{7}{8}$ " rivets  $2\frac{1}{2}$ " pitch at ends for  
 1 + 4, then 5" pitch staggered.





	h = 2' 0" lbs. w = 331 lbs.	h = 2' 6" lbs. w = 378 lbs.	h = 3' 0" lbs. w = 428 lbs.	h = 4' 0" lbs. w = 518 lbs.	h = 2' 0" lbs. w = 434 lbs.	h = 2' 6" lbs. w = 459 lbs.	h = 3' 0" lbs. w = 514 lbs.	h = 4' 0" lbs. w = 574 lbs.
	No. 44	No. 45	No. 46	No. 47	No. 48	No. 49	No. 50	No. 51
16	203	265	332	381	247	316	403	441
18	180	236	295	347	220	281	358	401
20	162	212	265	318	195	253	322	368
22	148	190	241	284	178	230	286	339
24	135	174	221	264	163	211	263	315
26	124	161	204	246	150	192	242	293
28	115	149	190	231	140	178	225	275
30	107	139	173	217	130	166	210	258
32	100	130	162	205	121	156	197	244
34	94	123	152	194	114	147	182	231
36	89	116	144	179	108	139	171	220
38	85	108	136	162	102	131	162	209
40	80	102	130	155	97	125	154	200
42	76	97	123	149	92	119	147	191
44	73	93	118	143	88	112	140	183
46	70	89	113	133	84	107	133	176
48	67	85	108	127	81	102	129	
50	64	82	104	121	77	98	124	

Allowed fiber strain per square in. of gross section = 10,000 lbs.

In figuring the moment of resistance of the above box girders a part of the web is taken into account varying from  $\frac{1}{8}$  to  $\frac{1}{2}$ , according to the different heights, so that in girders 3' and 4' high,  $\frac{1}{8}$  of the web area; in girders 2' 6" high  $\frac{1}{10}$ ; in girders 2' 0" high  $\frac{1}{12}$  of the area is added to the flange section. All girders are provided with a pair of stiffeners ( $3\frac{1}{2}$ " x 5" x  $\frac{1}{2}$ ") at each end, and a second pair ( $3\frac{1}{2}$ " x  $3\frac{1}{2}$ " x  $\frac{1}{2}$ ") in distance = h from each end. Girders from 30' to 50' have a third pair of stiffeners ( $3\frac{1}{2}$ " x  $3\frac{1}{2}$ " x  $\frac{3}{8}$ ") in distance =  $2\frac{1}{2}$  h from each end. The weight of the stiffeners is not included in the weight per lineal foot given in tables.

# DEARBORN FOUNDRY COMPANY.

## TABLE OF STRENGTH OF WROUGHT IRON BEAMS, WITH RIVETED PLATES TOP AND BOTTOM, SHOW- ING UNIFORMLY DISTRIBUTED SAFE LOAD, IN TONS OF 2,000 LBS.

Span in feet.	Section 1.	Section 2.	Section 3.	Section 4.
				
	Composed of 2-12" Beams, 42 lbs. per ft. Top plate 12" x ½" Bottom pl. 12" x ⅝"	Composed of 2-12" Beams, 60 lbs. per ft. Top plate 12" x ½" Bottom pl. 12" x ⅝"	Composed of 2-15" Beams, 50 lbs. per ft. Top Plate 14" x ⅝" Bottom pl. 14" x ¾"	Composed of 2-15" Beams, 67 lbs. per ft. Top plate 14" x ⅝" Bottom pl. 14" x ¾"
	Load in tons.	Load in tons.	Load in tons.	Load in tons.
10	51.1	60.0	82.7	98.6
11	46.5	54.9	75.5	89.3
12	42.6	50.6	69.5	81.5
13	39.5	46.9	64.3	75.5
14	36.5	43.4	59.8	70.4
15	34.1	40.3	55.3	65.8
16	31.9	37.5	52.2	61.8
17	30.1	35.2	49.0	58.2
18	28.4	33.0	46.2	54.9
19	26.9	31.0	43.8	52.1
20	25.5	29.4	41.4	49.4
21	24.5	27.8	39.6	47.1
22	23.4	26.7	37.8	44.8
23	22.2	25.6	36.2	43.0
24	21.3	24.6	34.7	41.0
25	20.7	23.9	33.4	39.4
26	20.0	23.1	31.7	37.8
27	19.3	22.3	30.5	36.3
28	18.6	21.5	29.5	34.9
29	17.9	20.8	28.6	33.8
30	17.2	20.0	27.6	32.6
31	16.6	19.5	26.7	31.6
32	16.2	18.8	26.1	30.7
33	15.6	18.2	25.3	29.8
34	14.9	17.6	24.6	29.0
35	14.3	17.0	24.0	28.2

Three-quarter inch rivets should be spaced as follows :

For the first ⅙ of span beginning at both ends, 3" centre to centre of rivets.

For the second ⅙ of span beginning at both ends, 4½" centre to centre of rivets.

For the remainder ⅔ span, 6" centre to centre of rivets.

## DEARBORN FOUNDRY COMPANY.

### THE FOLLOWING TABLE GIVES THE SAFE LOAD EQUALLY DISTRIBUTED IN TONS OF 2,000 LBS. FOR SANDWICH GIRDERS.

FIG. 1.



Elevation of Sandwich Girder. Section.

The attached table give the safe uniformly distributed load, in tons of 2,000 lbs. of girders, composed of wooden beams, with iron plates inserted between them, or *vice versa*, as the sketch shows. In the calculation iron and wood have been considered separately, and their respective carrying capacity for various spans ascertained. To obtain the total strength of such girders, add together the figures representing safe loads for each of the components of the girder. **EXAMPLE:** What is the safe load of a girder composed of two 3" x 12" wooden beams, 20 feet long, with a flitch plate 12" x 5-8"? The table gives for 12" x 5-8" x 20'0" plate, 3.00 tons, and for 1" thickness of 3" x 12" x 20'0" beam, 0.54 tons. As the total thickness of wood is 6", the load will be 6 x 0.54, or 3.24 tons, which, together with iron plate, makes 6.24 tons as allowable load. In similar way the load of any other girder of such kind may be found.

FIG. 2.



Elevation of Sandwich Girder. Section.

This method of calculating the safe load is based upon the supposition, which is general among builders, that both materials of which the girder is composed act simultaneously in resisting the external forces. This, however, owing to difference of modulus of elasticity of the two materials, seldom takes place, therefore such girders should be used cautiously, and it is better in calculating the safe load of this kind of girder for the more important structures, to take from the table the full value for flitch plate, but only one-half of the value given for wood. To prevent yielding sideways, the width of the girder should not be less than one-half of its depth approximately.

The following tables give strength of one plate, as shown in Fig. No. 1.

If girder has two (2) plates, as shown in Fig. 2, each plate will carry the weight as given in table.

In instances where there is no special reason to use such girders, wrought iron beams will always be found lighter, more reliable, and more economical.

# SAFE LOAD IN TONS FOR FLITCH PLATE GIRDERS

Span in feet.	DEPTH 10"					THICKNESS OF WOOD.	DEPTH 12"					THICKNESS OF WOOD.
	Thickness of Plate.						Thickness of Plate.					
	¼"	⅜"	½"	⅝"	¾"		1"	¼"	⅜"	½"	⅝"	
8	2.09	3.12	4.18	5.21	6.25	0.937	3.00	4.50	6.00	7.50	9.00	1.35
9	1.85	2.75	3.70	4.58	5.50	0.85	2.70	4.00	5.40	6.68	8.00	1.20
10	1.67	2.50	3.34	4.17	5.00	0.75	2.40	3.60	4.80	6.00	7.20	1.08
11	1.50	2.28	3.00	3.80	4.56	0.68	2.16	3.30	4.32	5.50	6.60	0.99
12	1.39	2.10	2.78	3.50	4.20	0.62	2.00	3.00	4.00	5.00	6.00	0.90
13	1.27	1.92	2.54	3.20	3.84	0.58	1.83	2.75	3.66	4.64	5.50	0.845
14	1.18	1.78	2.36	2.97	3.56	0.536	1.71	2.56	3.42	4.30	5.12	0.772
15	1.11	1.67	2.22	2.75	3.34	0.50	1.60	2.40	3.20	4.00	4.80	0.725
16	1.04	1.53	2.08	2.55	3.06	0.468	1.50	2.25	3.00	3.75	4.50	0.675
17	0.96	1.46	1.92	2.40	2.92	0.44	1.40	2.10	2.80	3.52	4.20	0.64
18	0.92	1.38	1.84	2.28	2.76	0.417	1.32	2.00	2.63	3.32	4.00	0.60
19	0.88	1.32	1.76	2.20	2.64	0.392	1.27	1.90	2.53	3.16	3.80	0.565
20	0.84	1.25	1.68	2.08	2.50	0.375	1.20	1.80	2.40	3.00	3.60	0.54
21	0.80	1.18	1.60	1.99	2.36	0.354	1.17	1.72	2.24	2.84	3.44	0.50
22	0.77	1.14	1.54	1.89	2.28	0.34	1.12	1.66	2.14	2.75	3.32	0.465
23	0.74	1.09	1.48	1.80	2.19	0.325	1.08	1.59	2.10	2.62	3.18	0.46
24	0.70	1.05	1.40	1.72	2.09	0.31	1.00	1.50	2.00	2.50	3.00	0.445
25	0.66	1.00	1.33	1.66	2.00	0.3	0.97	1.45	1.94	2.41	2.90	0.43
26	0.64	0.97	1.28	1.61	1.94	0.286	0.94	1.40	1.88	2.32	2.80	0.415
27	0.61	0.94	1.22	1.56	1.88	0.275	0.90	1.35	1.80	2.23	2.70	0.40
28	0.60	0.90	1.20	1.51	1.80	0.267	0.87	1.30	1.74	2.16	2.60	0.385
29	0.58	0.88	1.16	1.45	1.76	0.258	0.83	1.25	1.66	2.08	2.50	0.37
30	0.55	0.83	1.10	1.40	1.66	0.25	0.80	1.20	1.60	2.00	2.40	0.36

Span in feet.	DEPTH 14"					THICKNESS OF WOOD.	DEPTH 16"					THICKNESS OF WOOD.
	Thickness of Plate.						Thickness of Plate.					
	¼"	⅜"	½"	⅝"	¾"		1"	¼"	⅜"	½"	⅝"	
8	4.08	6.12	8.16	10.21	12.25	1.837	5.33	8.00	10.66	13.18	16.00	2.4
9	3.61	5.50	7.22	9.20	11.00	1.625	4.75	7.20	9.50	11.90	14.40	2.15
10	3.25	4.90	6.50	8.16	9.80	1.47	4.26	6.40	8.52	10.55	12.80	1.92
11	3.00	4.50	6.00	7.50	9.00	1.325	3.90	5.90	7.80	9.60	11.80	1.75
12	2.72	4.08	5.44	6.80	8.16	1.225	3.56	5.33	7.12	8.78	10.67	1.60
13	2.56	3.81	5.12	6.30	7.62	1.125	3.30	4.95	6.60	8.10	9.90	1.485
14	2.36	3.52	4.72	5.82	7.04	1.05	3.06	4.55	6.12	7.54	9.10	1.37
15	2.20	3.28	4.40	5.40	6.56	0.98	2.85	4.20	5.70	7.02	8.58	1.29
16	2.04	3.06	4.08	5.04	6.12	0.94	2.67	4.00	5.34	6.59	8.00	1.20
17	1.90	2.85	3.80	4.72	5.70	0.865	2.51	3.75	5.02	6.20	7.50	1.13
18	1.81	2.70	3.62	4.50	5.40	0.817	2.39	3.55	4.78	5.89	7.10	1.065
19	1.70	2.55	3.40	4.29	5.10	0.76	2.28	3.37	4.50	5.59	6.74	1.02
20	1.62	2.45	3.24	4.08	4.90	0.735	2.13	3.20	4.27	5.27	6.40	0.96
21	1.55	2.30	3.10	3.89	4.60	0.695	2.02	3.03	4.04	5.02	6.06	0.915
22	1.48	2.20	2.96	3.72	4.40	0.66	1.93	2.94	3.86	4.80	5.88	0.87
23	1.42	2.10	2.84	3.58	4.20	0.635	1.85	2.78	3.70	4.58	5.56	0.825
24	1.36	2.04	2.72	3.40	4.08	0.61	1.78	2.66	3.56	4.39	5.33	0.795
25	1.31	1.97	2.62	3.27	3.94	0.588	1.69	2.55	3.38	4.20	5.10	0.765
26	1.27	1.90	2.54	3.15	3.80	0.56	1.62	2.45	3.24	4.03	4.90	0.735
27	1.22	1.83	2.44	3.03	3.66	0.545	1.56	2.35	3.12	3.90	4.70	0.70
28	1.18	1.76	2.36	2.93	3.52	0.525	1.51	2.27	3.02	3.77	4.54	0.675
29	1.13	1.70	2.26	2.81	3.40	0.505	1.46	2.20	2.92	3.64	4.40	0.655
30	1.08	1.63	2.16	2.72	3.26	0.49	1.42	2.13	2.85	3.52	4.26	0.64

# DEARBORN FOUNDRY COMPANY.

## WOODEN BEAMS.

**Safe Load, Uniformly Distributed, for Rectangular  
White or Yellow Pine Beams one inch thick,**

allowing 1200 lbs. per square inch fiber strain.

To obtain the safe load for any thickness, multiply the safe load given in table, by the thickness of beam.

To obtain the required thickness for any load, divide by the safe load for 1 inch, given in table.

Span in Feet.	DEPTH OF BEAM.										
	6"	7"	8"	9"	10"	11"	12"	13"	14"	15"	16"
Feet.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
5	960	1310	1710	2160	2670	3230	3840	4510	5230	6000	6830
6	800	1090	1420	1800	2220	2690	3200	3760	4360	5000	5690
7	690	930	1220	1540	1900	2300	2740	3220	3730	4290	4880
8	600	820	1070	1350	1670	2020	2400	2820	3270	3750	4270
9	530	730	950	1200	1480	1790	2130	2500	2900	3330	3790
10	480	650	850	1080	1330	1610	1920	2250	2610	3000	3410
11	440	590	780	980	1210	1470	1750	2050	2380	2730	3100
12	400	540	710	900	1110	1340	1600	1880	2180	2500	2840
13	370	500	660	830	1030	1240	1480	1730	2010	2310	2630
14	340	470	610	770	950	1150	1370	1610	1870	2140	2440
15	320	440	570	720	890	1080	1280	1500	1740	2000	2280
16	300	410	530	680	830	1010	1200	1410	1630	1880	2130
17	280	380	500	640	780	950	1130	1330	1540	1760	2010
18	270	360	470	600	740	900	1070	1250	1450	1670	1900
19	250	340	450	570	700	850	1010	1190	1380	1580	1800
20	240	330	430	540	670	810	960	1130	1310	1500	1710
21	230	310	410	510	630	770	910	1070	1240	1430	1630
22	220	300	390	490	610	730	870	1020	1190	1360	1550
23	210	280	370	470	580	700	830	980	1140	1300	1480
24	200	270	360	450	560	670	800	940	1090	1250	1420
25	190	260	340	430	530	650	770	900	1050	1200	1370
26	180	250	330	420	510	620	740	870	1010	1150	1310
27	180	240	320	400	500	600	710	830	970	1110	1260
28	170	230	300	390	480	580	690	800	930	1070	1220
29	170	230	290	370	460	560	660	780	900	1030	1180

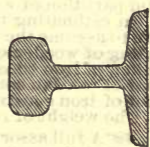
# DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

**SAFE LOAD, EQUALLY DISTRIBUTED IN TONS OF 2,000 LBS., FOR RAILROAD IRON USED AS BEAMS, FACTOR OF SAFETY 5.**

	SPAN IN FEET.														
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
4 Rail 52 lbs. per yard.....	10.73	7.15	5.36	4.29	3.57	3.06	2.68	2.37	2.15	1.95	1.79	1.64	1.53	1.43	1.39
4 Rail 60 lbs. per yard.....	11.90	7.93	5.65	4.76	3.96	3.40	2.97	2.64	2.38	2.15	1.98	1.83	1.70	1.59	1.55
Deflection under above load in inches.....	0.045	0.050	0.073	0.090	0.125	0.172	0.230	0.298	0.371	0.445	0.537	0.630	0.729	0.834	0.935

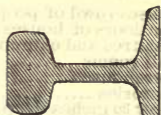
**Note.**—The above Table is calculated for new Rails. If old Iron is used, only 60% to 70% of the load given should be taken. **Steel Rails** will carry with safety 33% more than Iron Rails as given in the above Tables.

Height 4"



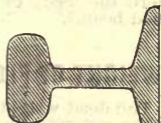
56½ lbs. per yard.

Height 4½"



62 lbs. per yard.

Height 4¾"



64 lbs. per yard.

Height 4¼"

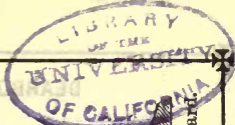


66½ lbs. per yard.

Height 4"



60 lbs. per yard.



## DEARBORN FOUNDRY COMPANY.

### NOTES ON GIRDERS AND FLOORS.

In using beams as girders, to carry the front walls of a building, care must be taken that the piers or walls, upon which the ends of girders rest, are strong enough to support the weight. The pressure on a brick wall should not exceed eight tons per square foot.

Under the ends of girders a cast-iron plate should be used.

Girders can be formed of two or more beams bolted together every five or six feet, with cast-iron separators, as shown in Fig. No. 1 or No. 2, and when required the beams can be made into coupled girders, as shown in Fig. No. 3, which makes each beam  $1\frac{1}{4}$  times as strong as if placed side by side. A trebled girder, as shown in Fig. No. 4, makes each beam  $1\frac{3}{4}$  times as strong as if placed side by side.

In requesting estimates upon beam girders to carry the front walls of buildings, the following information should be given:

Distance between supports. Height and thickness of wall above girder. Number and size of windows in wall above girder, and if the floor joists or floor girders rest upon the wall over beam girder, a sketch of same should be sent, or the number of square feet of floors and roof carried by girder should be given, and the use to which building is to be put should be stated.

Figures No. 5 and 6 show sections of riveted girders for use where the loads or spans are too great to admit the use of rolled beams.

### WEIGHT OF FLOORS AND THE LOAD UPON SAME.

The dead weight of a fire-proof floor will average for the arches, concrete, plastering and flooring, 70 lbs. per square foot.

The live weight, equal to a dense crowd of people, 80 lbs. per square foot, or a total for an office building, 150 lbs. per square foot.

The following loads are exclusive of weight of arches and beams:

Dense crowd of people.....	80 lbs. per square ft.
For floors of houses.....	50   "   "
Theatres and churches.....	80   "   "
Ball rooms.....	90   "   "
Warehouses.....	250   "   "
Factories.....	200 to 450   "   "
Snow 30 inches deep.....	15   "   "
Brick walls.....	112 lbs. per cubic ft.
Stone, Chicago Limestone dressed.....	160   "   "

The dead weight of a wooden floor, including wood joists:

Double flooring and plastering will average	25 lbs. per square ft.
If deafened.....	35   "   "
Stud partition of wood plastered each side	20   "   "

In estimating the weight of a flat ceiling and roof it will be safe to assume the following:

Ceiling of wooden construction.....	15 lbs. per square ft.
Ceiling of iron construction.....	25 to 65   "   "
Roof of wooden construction.....	45   "   "
Roof of iron construction.....	35 to 100   "   "

The weight of roof includes the wind pressure and snow.

☛ A full assortment of Rolled Iron Beams carried in stock. Prompt delivery guaranteed.

# DEARBORN FOUNDRY COMPANY.

## GIRDERS.

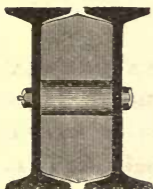


Fig. No. 1.

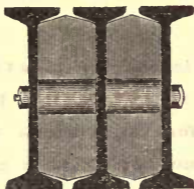


Fig. No. 2.

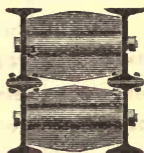


Fig. No. 3.

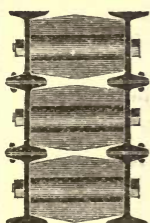


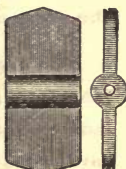
Fig. No. 4.



Fig. No. 5.



Fig. No. 6.



Cast Separator.



Front View of Girder, for Sections see Fig. No. 1 and No. 2.



Front Elevation of Riveted Girders, for Sections see Fig. No. 5 and No. 6.

## DEARBORN FOUNDRY COMPANY.

### STEEL BEAMS.

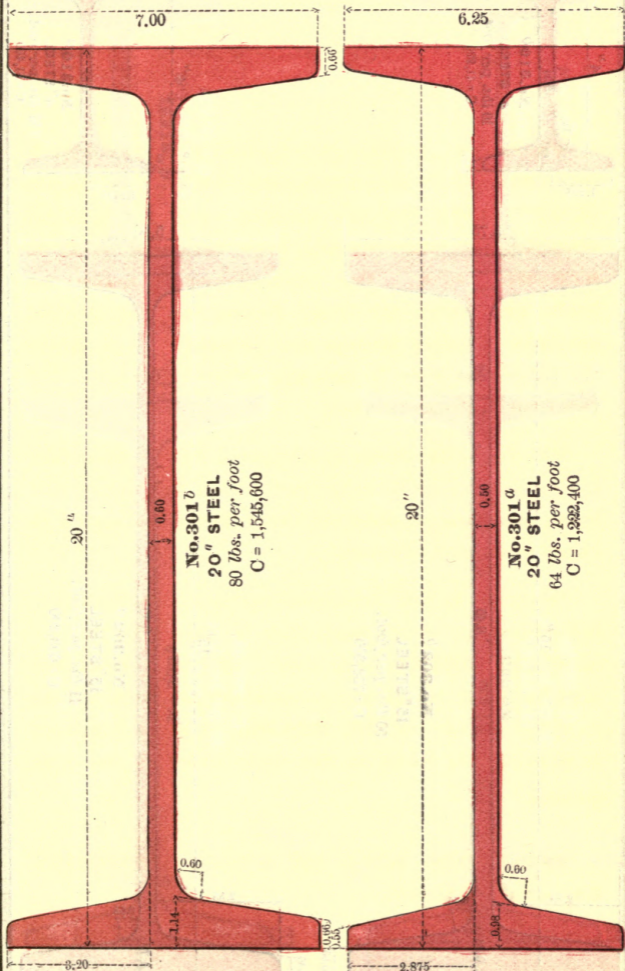
The following tables give the **SAFE, UNIFORMLY DISTRIBUTED STATIONARY LOADS** in **TONS** of **2,000 LBS.**, for the various spans of **STEEL BEAMS**, the same having been arranged by **C. L. STROBEL, C. E.** For convenience in using the book, all tables for **Steel Beams**, as well as the sections of **Steel Beams**, are printed in red, while the tables for **Iron Beams** are printed in black, and the **Iron sections** in blue.

The deflexive limit is indicated in the following tables by a cross line, beyond which the spans and loads must not be used for **Steel Beams** intended to carry plastered ceilings.

We wish to call particular attention to the striking advantage which may often be gained by the use of **STEEL BEAMS** over iron. This by comparison will be found to amount to about 20 per cent. saving in favor of the **STEEL BEAMS**. We are prepared to furnish the **Steel** at the same price as the **Iron Beams**.

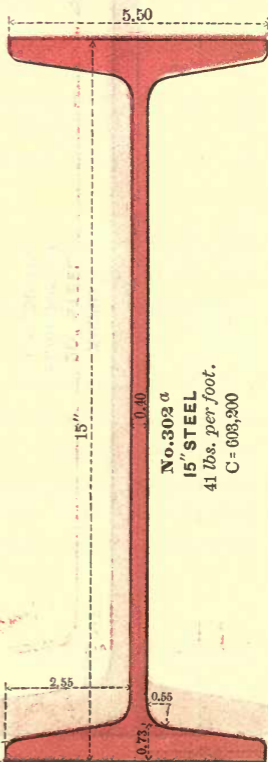
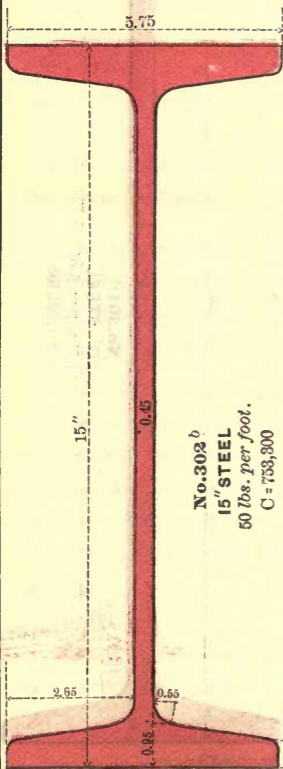
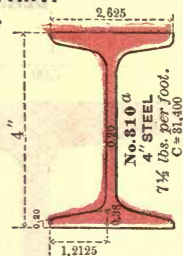
**ESTIMATES WILL BE GIVEN PROMPTLY ON APPLICATION.**

DEARBORN FOUNDRY COMPANY.  
Carnegie Steel Sections.



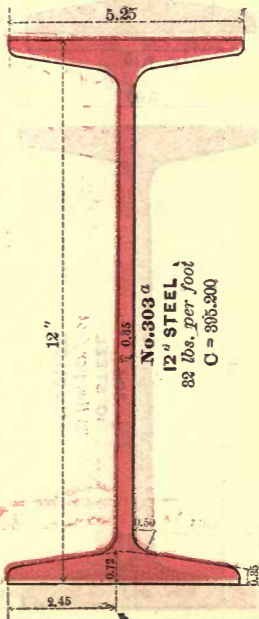
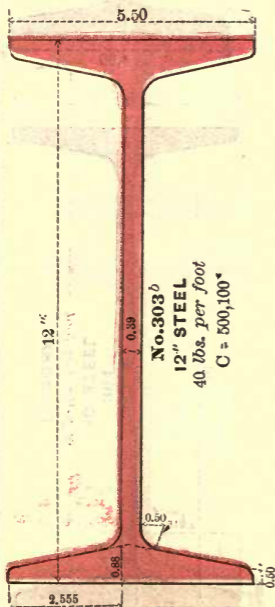
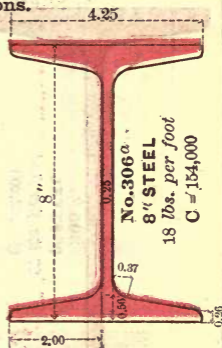
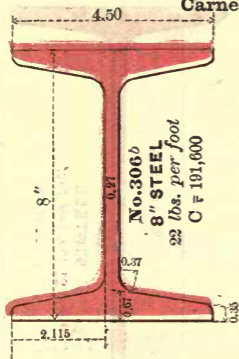
# DEARBORN FOUNDRY COMPANY.

## Carnegie Steel Sections.



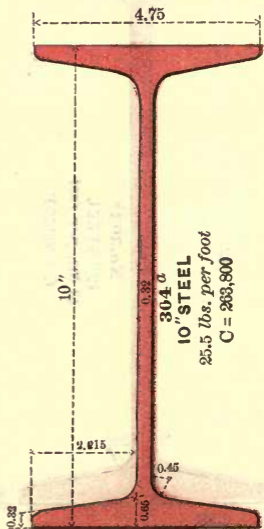
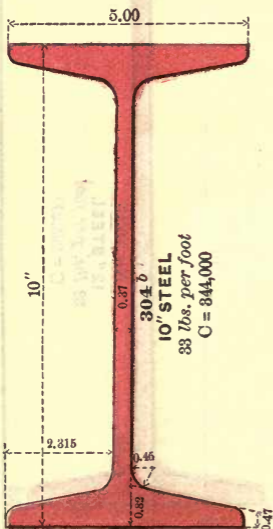
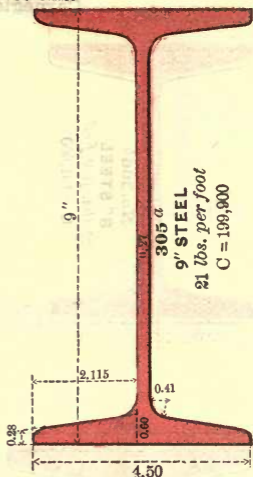
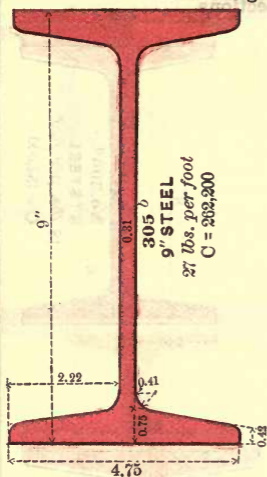
# DEARBORN FOUNDRY COMPANY.

Carnegie Steel Sections.



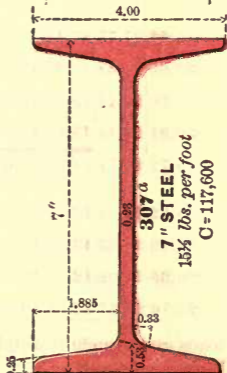
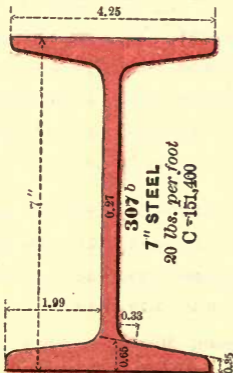
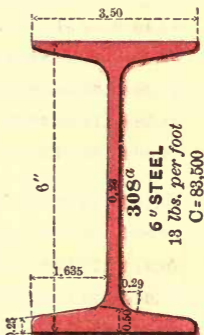
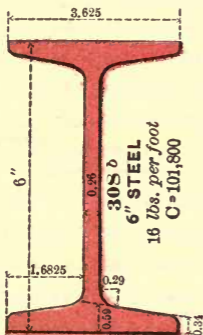
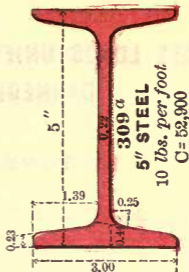
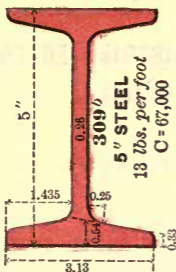
# DEARBORN FOUNDRY COMPANY.

## Carnegie Steel Sections.



# DEARBORN FOUNDRY COMPANY.

Carnegie Steel Sections.



# DEARBORN FOUNDRY COMPANY.

## SAFE LOADS UNIFORMLY DISTRIBUTED FOR CARNEGIE STEEL BEAMS.

IN TONS OF 2,000 LBS.

Distance between Supports in feet.	20" I		15" I		12" I		10" I		9" I	
	80 lbs.	64 lbs.	50 lbs.	41 lbs.	40 lbs.	32 lbs.	33 lbs.	25½ lbs.	27 lbs.	21 lbs.
12	64.40	50.93	31.38	25.15	20.84	16.44	14.33	10.99	10.92	8.33
13	59.45	47.02	28.97	23.22	19.24	15.17	13.23	10.15	10.08	7.69
14	55.20	43.66	26.90	21.56	17.87	14.09	12.29	9.42	9.36	7.14
15	51.52	40.75	25.10	20.12	16.68	13.15	11.47	8.79	8.74	6.66
16	48.30	38.20	23.53	18.87	15.63	12.33	10.75	8.24	8.19	6.25
17	45.46	35.95	22.15	17.76	14.71	11.60	10.12	7.74	7.71	5.88
18	42.93	33.96	20.92	16.77	13.90	10.96	9.56	7.33	7.28	5.55
19	40.67	32.17	19.82	15.89	13.17	10.38	9.05	6.94	6.90	5.26
20	38.64	30.56	18.83	15.09	12.51	9.86	8.60	6.60	6.56	5.00
21	36.80	28.87	17.93	14.37	11.91	9.39	8.19	6.28	6.24	4.76
22	35.13	27.78	17.12	13.72	11.37	8.97	7.82	6.00	5.96	4.54
23	33.60	26.58	16.37	13.12	10.88	8.58	7.48	5.74	5.70	4.35
24	32.20	25.47	15.69	12.58	10.42	8.22	7.17	5.50	5.46	4.17
25	30.91	24.45	15.06	12.07	10.01	7.89	6.88	5.28	5.24	4.00
26	29.72	23.51	14.48	11.61	9.62	7.59	6.62	5.07	5.04	3.84
27	28.62	22.64	13.95	11.18	9.27	7.31	6.37	4.89	4.86	3.70
28	27.60	21.83	13.45	10.78	8.93	7.04	6.14	4.71	4.68	3.57
29	26.65	21.08	12.98	10.41	8.63	6.80	5.93	4.55	4.52	3.45
30	25.76	20.37	12.55	10.06	8.34	6.58	5.73	4.40	4.37	3.33

Safe loads given, include weight of beam. Maximum fibre strain, 16,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SAFE LOADS UNIFORMLY DISTRIBUTED FOR CARNEGIE STEEL BEAMS.

IN TONS OF 2,000 LBS.

Distance between Supports in feet.	8" I		7" I		6" I		5" I		4" I	
	22 lbs.	18 lbs.	20 lbs.	15½ lbs.	16 lbs.	13 lbs.	13 lbs.	10 lbs.	10 lbs.	7½ lbs.
5	19.16	15.40	15.14	11.76	10.18	8.35	6.70	5.29	4.12	3.14
6	15.97	12.83	12.62	9.80	8.48	6.96	5.58	4.41	3.43	2.62
7	13.69	11.00	10.81	8.40	7.27	5.96	4.79	3.78	2.94	2.24
8	11.97	9.63	9.46	7.35	6.36	5.22	4.19	3.31	2.58	1.96
9	10.64	8.56	8.41	6.53	5.66	4.64	3.72	2.94	2.29	1.74
10	9.58	7.70	7.55	5.88	5.09	4.18	3.35	2.65	2.06	1.57
11	8.71	7.00	6.88	5.35	4.63	3.80	3.05	2.40	1.87	1.43
12	7.98	6.42	6.31	4.90	4.24	3.48	2.79	2.20	1.72	1.31
13	7.37	5.92	5.82	4.52	3.92	3.21	2.58	2.03	1.58	1.21
14	6.84	5.50	5.41	4.20	3.64	2.98	2.39	1.89	1.47	1.12
15	6.39	5.13	5.05	3.92	3.39	2.78	2.23	1.76	1.37	1.05
16	5.99	4.81	4.73	3.68	3.18	2.61	2.09	1.65	1.29	0.98
17	5.64	4.53	4.45	3.46	2.99	2.46	1.97	1.56	1.21	0.92
18	5.32	4.28	4.21	3.27	2.83	2.32	1.86	1.47	1.14	0.87
19	5.04	4.05	3.98	3.09	2.68	2.20	1.76	1.39	1.08	0.83
20	4.79	3.85	3.79	2.94	2.55	2.09	1.68	1.32	1.03	0.79
21	4.56	3.67	3.60	2.80	2.42	1.99	1.60	1.26	0.98	0.75

Safe loads given, include weight of beam. Maximum fibre strain, 16,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SPACING OF CARNEGIE STEEL BEAMS FOR UNIFORM LOAD OF 100 LBS. PER SQUARE FOOT.

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	20' I		15' I		12' I		10' I		9' I	
	80 lbs.	64 lbs.	50 lbs.	41 lbs.	40 lbs.	32 lbs.	33 lbs.	25½ lbs.	27 lbs.	21 lbs.
12	107.3	84.9	52.3	41.9	34.7	27.4	23.9	18.3	18.2	13.9
13	91.5	72.3	44.6	35.7	29.6	23.3	20.4	15.6	15.5	11.8
14	78.8	62.4	38.4	30.8	25.5	20.1	17.6	13.5	13.4	10.2
15	68.7	54.3	33.5	26.8	22.2	17.5	15.3	11.7	11.7	8.9
16	60.4	47.7	29.4	23.6	19.5	15.4	13.4	10.3	10.2	7.8
17	53.5	42.3	26.1	20.9	17.3	13.7	11.9	9.1	9.1	6.9
18	47.7	37.7	23.3	18.6	15.4	12.2	10.6	8.1	8.1	6.2
19	42.8	33.9	20.9	16.7	13.9	10.9	9.5	7.3	7.3	5.5
20	38.6	30.6	18.8	15.1	12.5	9.9	8.6	6.6	6.6	5.0
21	35.0	27.7	17.1	13.7	11.3	8.9	7.8	6.0	6.0	4.5
22	31.9	25.3	15.6	12.5	10.3	8.2	7.1	5.5	5.4	4.1
23	29.2	23.1	14.2	11.4	9.5	7.5	6.5	5.0	5.0	3.8
24	26.8	21.2	13.1	10.5	8.7	6.9	6.0	4.6	4.6	3.5
25	24.7	19.6	12.1	9.7	8.0	6.3	5.5	4.2	4.2	3.2
26	22.9	18.1	11.1	8.9	7.4	5.8	5.1	3.9	3.9	3.0
27	21.2	16.8	10.3	8.3	6.9	5.4	4.7	3.6	3.6	2.7
28	19.7	15.6	9.6	7.7	6.4	5.0	4.4	3.4	3.3	2.6
29	18.4	14.5	9.0	7.2	5.9	4.7	4.1	3.1	3.1	2.4
30	17.2	13.6	8.4	6.7	5.6	4.4	3.8	2.9	2.9	2.2

For load of 200 lbs. per square foot, divide the spacing given by (2).  
Maximum fibre strain, 16,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SPACING OF CARNEGIE STEEL BEAMS FOR UNIFORM LOAD OF 100 LBS. PER SQUARE FOOT.

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	8' I		7' I		6' I		5' I		4' I	
	22 lbs.	18 lbs.	20 lbs.	15½ lbs.	16 lbs.	13 lbs.	13 lbs.	10 lbs.	10 lbs.	7½ lbs.
5	76.6	61.6	60.6	47.0	40.7	33.4	26.8	21.2	16.5	12.6
6	53.2	42.8	42.1	32.7	28.3	23.2	18.6	14.7	11.4	8.7
7	39.1	31.4	30.9	24.0	20.8	17.9	13.7	10.8	8.4	6.4
8	29.9	24.1	23.7	18.4	15.9	13.0	10.5	8.3	6.4	4.9
9	23.7	19.0	18.7	14.5	12.6	10.3	8.3	6.5	5.1	3.9
10	19.2	15.4	15.1	11.8	10.2	8.4	6.7	5.3	4.1	3.1
11	15.8	12.7	12.5	9.7	8.4	6.9	5.5	4.4	3.4	2.6
12	13.3	10.7	10.5	8.2	7.1	5.8	4.7	3.7	2.9	2.2
13	11.3	9.1	9.0	7.0	6.0	4.9	4.0	3.1	2.4	1.9
14	9.8	7.9	7.7	6.0	5.2	4.3	3.4	2.7	2.1	1.6
15	8.5	6.8	6.7	5.2	4.5	3.7	3.0	2.4	1.8	1.4
16	7.5	6.0	5.9	4.6	4.0	3.3	2.6	2.1	1.6	1.2
17	6.6	5.3	5.2	4.1	3.5	2.9	2.3	1.8	1.4	1.1
18	5.9	4.8	4.7	3.6	3.1	2.6	2.1	1.6	1.3	1.0
19	5.3	4.3	4.2	3.3	2.8	2.3	1.9	1.5	1.1	.....
20	4.8	3.9	3.8	2.9	2.5	2.1	1.7	1.3	1.0	.....
21	4.3	3.5	3.4	2.7	2.3	1.9	1.5	1.2	.....	.....
22	4.0	3.2	3.1	2.4	2.1	1.7	1.4	1.1	.....	.....

For load of 200 lbs. per square foot, divide the spacing given by (2).  
Maximum fibre strain, 16,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SPACING OF CARNEGIE STEEL BEAMS FOR UNIFORM LOAD OF 125 LBS. PER SQUARE FOOT.

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	20" I		15" I		12" I		10" I		9" I	
	80 lbs.	64 lbs.	50 lbs.	41 lbs.	40 lbs.	32 lbs.	33 lbs.	25½ lbs.	27 lbs.	21 lbs.
12	85.9	67.9	41.8	33.5	27.8	21.9	19.1	14.6	14.6	11.1
13	73.2	57.8	35.6	28.6	23.7	18.6	16.3	12.5	12.4	9.5
14	63.1	49.9	30.7	24.6	20.4	16.1	14.0	10.8	10.7	8.2
15	55.0	43.5	26.8	21.4	17.8	14.0	12.2	9.4	9.3	7.1
16	48.3	38.2	23.5	18.8	15.6	12.3	10.8	8.2	8.2	6.2
17	42.8	33.8	20.9	16.7	13.8	10.9	9.5	7.3	7.3	5.5
18	38.2	30.2	18.6	14.9	12.4	9.8	8.5	6.5	6.5	4.9
19	34.2	27.1	16.7	13.4	11.1	8.7	7.6	5.8	5.8	4.4
20	30.9	24.4	15.1	12.1	10.0	7.9	6.9	5.3	5.2	4.0
21	28.0	22.2	13.7	10.9	9.1	7.2	6.2	4.8	4.8	3.6
22	25.5	20.2	12.5	10.0	8.3	6.6	5.7	4.4	4.3	3.3
23	23.4	18.5	11.4	9.1	7.6	6.0	5.2	4.0	4.0	3.0
24	21.4	17.0	10.5	8.4	7.0	5.5	4.8	3.7	3.6	2.8
25	19.8	15.6	9.6	7.7	6.4	5.0	4.4	3.4	3.4	2.6
26	18.3	14.5	8.9	7.1	5.9	4.7	4.1	3.1	3.1	2.4
27	17.0	13.4	8.3	6.6	5.5	4.3	3.8	2.9	2.9	2.2
28	15.8	12.5	7.7	6.2	5.1	4.0	3.5	2.7	2.7	2.0
29	14.7	11.6	7.2	5.7	4.8	3.8	3.3	2.5	2.5	1.9
30	13.7	10.9	6.7	5.4	4.5	3.5	3.0	2.3	2.3	1.8

For load of 250 lbs. per square foot, divide the spacing given by (2).  
Maximum fibre strain, 16,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SPACING OF CARNEGIE STEEL BEAMS FOR UNIFORM LOAD OF 125 LBS. PER SQUARE FOOT.

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	8" I		7" I		6" I		5" I		4" I	
	22 lbs.	18 lbs.	20 lbs.	15½ lbs.	16 lbs.	13 lbs.	13 lbs.	10 lbs.	10 lbs.	7½ lbs.
5	61.3	49.3	48.5	37.6	32.6	26.7	21.4	16.9	13.2	10.0
6	42.6	34.2	33.6	26.1	22.6	18.6	14.9	11.8	9.2	7.0
7	31.3	25.1	24.7	19.2	16.6	13.6	10.9	8.6	6.7	5.1
8	23.9	19.2	18.9	14.7	12.7	10.4	8.4	6.6	5.2	3.9
9	19.0	15.2	15.0	11.6	10.1	8.2	6.6	5.2	4.1	3.1
10	15.3	12.3	12.1	9.4	8.1	6.7	5.4	4.2	3.3	2.5
11	12.7	10.2	10.0	7.8	6.7	5.5	4.4	3.5	2.7	2.1
12	10.6	8.6	8.4	6.6	5.7	4.6	3.7	2.9	2.3	1.8
13	9.1	7.2	7.2	5.6	4.8	4.0	3.2	2.5	2.0	1.5
14	7.8	6.3	6.2	4.8	4.2	3.4	2.7	2.2	1.7	1.3
15	6.8	5.5	5.4	4.2	3.6	3.0	2.4	1.9	1.5	1.1
16	6.0	4.8	4.7	3.7	3.2	2.6	2.1	1.7	1.3	1.0
17	5.3	4.3	4.2	3.3	2.8	2.3	1.9	1.5	1.1	.....
18	4.7	3.8	3.8	2.9	2.5	2.1	1.7	1.3	1.0	.....
19	4.2	3.4	3.4	2.6	2.2	1.8	1.5	1.2	.....	.....
20	3.8	3.1	3.0	2.4	2.0	1.7	1.3	1.1	.....	.....
21	3.5	2.8	2.7	2.2	1.8	1.5	1.2	1.0	.....	.....
22	3.2	2.6	2.5	1.9	1.7	1.4	1.1	.....	.....	.....

For load of 250 lbs. per square foot, divide the spacing given by (2).  
Maximum fibre strain, 16,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SPACING OF CARNEGIE STEEL BEAMS FOR UNIFORM LOAD OF 150 LBS. PER SQUARE FOOT.

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	20" I		15" I		12" I		10" I		9" I	
	80 lbs.	64 lbs.	50 lbs.	41 lbs.	40 lbs.	32 lbs.	33 lbs.	25½ lbs.	27 lbs.	21 lbs.
12	71.6	56.6	34.9	27.9	23.2	18.3	15.9	12.2	12.1	9.3
13	61.0	48.2	29.7	23.8	19.7	15.6	13.6	10.4	10.3	7.9
14	52.6	41.6	25.6	20.5	17.0	13.4	11.7	9.0	8.9	6.8
15	45.8	36.2	22.3	17.9	14.8	11.7	10.2	7.8	7.8	5.9
16	40.3	31.8	19.6	15.7	13.0	10.3	9.0	6.9	6.8	5.2
17	35.7	28.2	17.4	13.9	11.5	9.1	7.9	6.1	6.0	4.6
18	31.8	25.1	15.5	12.4	10.3	8.1	7.1	5.4	5.4	4.1
19	28.5	22.6	13.9	11.1	9.2	7.3	6.4	4.9	4.8	3.7
20	25.8	20.4	12.6	10.0	8.3	6.6	5.7	4.4	4.4	3.3
21	23.4	18.5	11.4	9.1	7.6	6.0	5.2	4.0	4.0	3.0
22	21.3	16.8	10.4	8.3	6.9	5.5	4.7	3.7	3.6	2.7
23	19.5	15.4	9.5	7.3	6.3	5.0	4.3	3.3	3.3	2.5
24	17.9	14.1	8.7	7.0	5.8	4.6	4.0	3.1	3.0	2.3
25	16.5	13.0	8.0	6.4	5.3	4.2	3.7	2.8	2.8	2.1
26	15.3	12.1	7.4	5.9	4.9	3.9	3.4	2.6	2.6	2.0
27	14.1	11.2	6.9	5.5	4.6	3.6	3.1	2.4	2.4	1.8
28	13.1	10.4	6.4	5.1	4.3	3.4	2.9	2.2	2.2	1.7
29	12.3	9.7	6.0	4.8	4.0	3.1	2.7	2.1	2.1	1.6
30	11.4	9.1	5.6	4.5	3.7	2.9	2.5	2.0	1.9	1.5

For load of 300 lbs. per square foot, divide the spacing given by (2).  
Maximum fibre strain, 16,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SPACING OF CARNEGIE STEEL BEAMS FOR UNIFORM LOAD OF 150 LBS. PER SQUARE FOOT.

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	8" I		7" I		6" I		5" I		4" I	
	22 lbs.	18 lbs.	20 lbs.	15½ lbs.	16 lbs.	13 lbs.	13 lbs.	10 lbs.	10 lbs.	7½ lbs.
5	51.1	41.1	40.4	31.4	27.1	22.3	17.9	14.1	11.0	8.4
6	35.5	28.5	28.0	21.8	18.9	15.5	12.4	9.8	7.6	5.8
7	26.1	21.0	20.6	16.0	13.9	11.4	9.1	7.2	5.6	4.3
8	20.0	16.0	15.8	12.3	10.6	8.7	7.0	5.5	4.3	3.3
9	15.8	12.7	12.5	9.7	8.4	6.9	5.5	4.4	3.4	2.6
10	12.8	10.3	10.1	7.8	6.8	5.6	4.5	3.5	2.8	2.1
11	10.6	8.5	8.3	6.5	5.6	4.6	3.7	2.9	2.3	1.7
12	8.9	7.1	7.0	5.5	4.7	3.9	3.1	2.4	1.9	1.5
13	7.6	6.1	6.0	4.6	4.0	3.3	2.6	2.1	1.6	1.2
14	6.5	5.2	5.2	4.0	3.5	2.8	2.3	1.8	1.4	1.1
15	5.7	4.6	4.5	3.5	3.0	2.5	2.0	1.6	1.2	0.9
16	5.0	4.0	3.9	3.1	2.7	2.2	1.7	1.4	1.1	.....
17	4.4	3.6	3.5	2.7	2.3	1.9	1.5	1.2	1.0	.....
18	3.9	3.2	3.1	2.4	2.1	1.7	1.4	1.1	.....	.....
19	3.5	2.8	2.8	2.2	1.9	1.5	1.2	1.0	.....	.....
20	3.2	2.6	2.5	2.0	1.7	1.4	1.1	.....	.....	.....
21	2.9	2.3	2.3	1.8	1.5	1.3	1.0	.....	.....	.....
22	2.7	2.1	2.1	1.6	1.4	1.1	.....	.....	.....	.....

For load of 300 lbs. per square foot, divide the spacing given by (2).  
Maximum fibre strain, 16,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SPACING OF CARNEGIE STEEL BEAMS FOR UNIFORM LOAD OF 175 LBS. PER SQUARE FOOT.

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	20" I		15" I		12" I		10" I		9" I	
	80 lbs.	64 lbs.	50 lbs.	41 lbs.	40 lbs.	32 lbs.	33 lbs.	25½ lbs.	27 lbs.	21 lbs.
12	61.3	48.5	29.9	23.9	19.8	15.7	13.7	10.5	10.4	7.9
13	52.3	41.3	25.5	20.4	16.9	13.3	11.6	8.9	8.9	6.8
14	45.0	35.6	22.0	17.6	14.6	11.5	10.0	7.7	7.6	5.8
15	39.3	31.0	19.1	15.3	12.7	10.0	8.7	6.7	6.7	5.1
16	34.5	27.3	16.8	13.5	11.2	8.8	7.7	5.9	5.9	4.5
17	30.6	24.2	14.9	11.9	9.9	7.8	6.8	5.2	5.2	3.9
18	27.3	21.6	13.3	10.6	8.8	7.6	6.1	4.7	4.6	3.5
19	24.5	19.3	11.9	9.5	7.9	6.2	5.4	4.2	4.1	3.2
20	22.1	17.5	10.8	8.6	7.1	5.6	4.9	3.8	3.7	2.9
21	20.0	15.8	9.8	7.8	6.5	5.1	4.5	3.4	3.4	2.6
22	18.2	14.4	8.9	7.1	5.9	4.7	4.1	3.1	3.1	2.3
23	16.7	13.2	8.2	6.5	5.4	4.3	3.7	2.9	2.8	2.2
24	15.3	12.1	7.5	6.0	5.0	3.9	3.4	2.6	2.6	2.0
25	14.1	11.2	6.9	5.5	4.6	3.6	3.1	2.4	2.4	1.8
26	13.1	10.3	6.4	5.1	4.2	3.3	2.9	2.2	2.2	1.7
27	12.1	9.6	5.9	4.7	3.9	3.1	2.7	2.1	2.1	1.6
28	11.3	8.9	5.5	4.4	3.6	2.9	2.5	1.9	1.9	1.5
29	10.5	8.3	5.1	4.1	3.4	2.7	2.3	1.8	1.8	1.4
30	9.8	7.8	4.8	3.8	3.2	2.5	2.2	1.7	1.7	1.3

For load of 350 lbs. per square foot, divide the spacing given by (2).  
Maximum fibre strain, 16,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SPACING OF CARNEGIE STEEL BEAMS FOR UNIFORM LOAD OF 175 LBS. PER SQUARE FOOT.

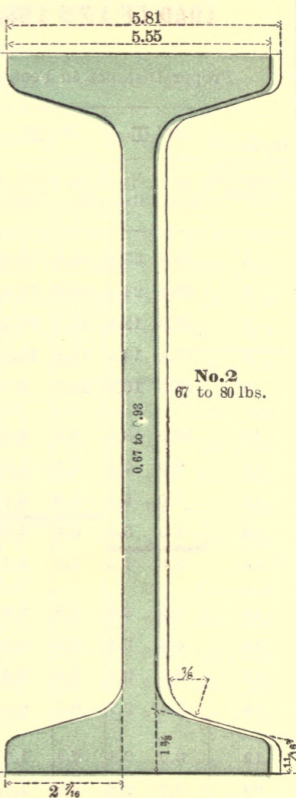
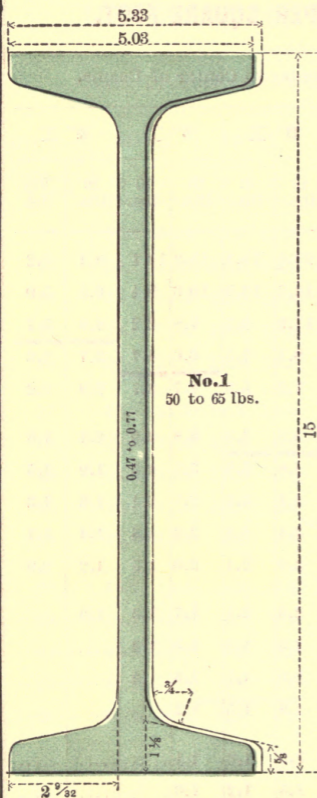
Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	8" I		7" I		6" I		5" I		4" I	
	22 lbs.	18 lbs.	20 lbs.	15½ lbs.	16 lbs.	13 lbs.	13 lbs.	10 lbs.	10 lbs.	7½ lbs.
5	43.8	35.2	34.6	26.0	23.3	19.1	15.3	12.1	9.4	7.2
6	30.4	24.4	24.0	18.7	16.2	13.3	10.6	8.4	6.5	5.0
7	22.3	18.0	17.7	13.7	11.9	9.7	7.8	6.2	4.8	3.7
8	17.1	13.7	13.5	10.5	9.1	7.5	6.0	4.7	3.7	2.8
9	13.5	10.9	10.7	8.3	7.2	5.9	4.7	3.7	2.9	2.2
10	10.9	8.8	8.7	6.7	5.8	4.8	3.8	3.0	2.4	1.8
11	9.0	7.3	7.1	5.6	4.8	3.9	3.2	2.5	1.9	1.5
12	7.6	6.1	6.0	4.7	4.1	3.3	2.7	2.1	1.6	1.3
13	6.5	5.2	5.1	4.0	3.4	2.8	2.3	1.8	1.4	1.1
14	5.6	4.5	4.4	3.4	3.0	2.4	2.0	1.5	1.2	0.9
15	4.9	3.9	3.8	3.0	2.6	2.1	1.7	1.3	1.0	.....
16	4.3	3.4	3.4	2.6	2.3	1.9	1.5	1.2	.....	.....
17	3.8	3.0	3.0	2.3	2.0	1.7	1.3	1.0	.....	.....
18	3.4	2.7	2.7	2.1	1.8	1.5	1.2	.....	.....	.....
19	3.0	2.4	2.4	1.9	1.6	1.3	1.1	.....	.....	.....
20	2.7	2.2	2.2	1.7	1.5	1.2	1.0	.....	.....	.....
21	2.5	2.0	2.0	1.5	1.3	1.1	.....	.....	.....	.....
22	2.3	1.8	1.8	1.4	1.2	1.0	.....	.....	.....	.....

For load of 350 lbs. per square foot, divide the spacing given by (2).  
Maximum fibre strain, 16,000 lbs. per square inch.

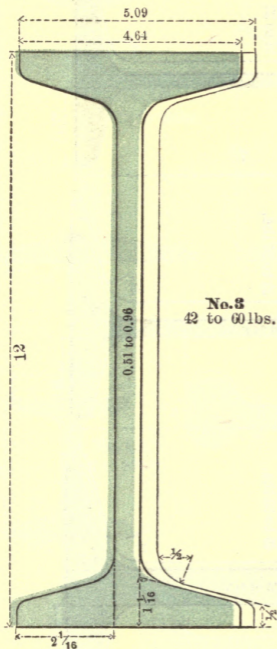
# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

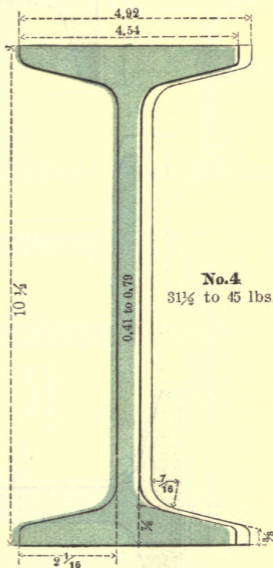


# DEARBORN FOUNDRY COMPANY.

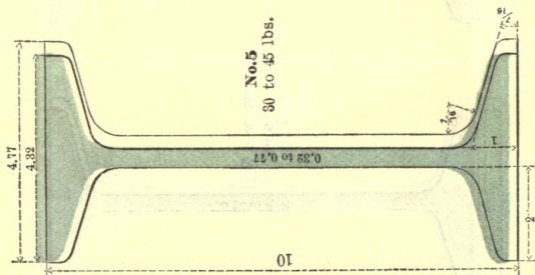
## Carnegie Iron Sections.



**No. 3**  
42 to 60 lbs.



**No. 4**  
31  $\frac{1}{2}$  to 45 lbs.

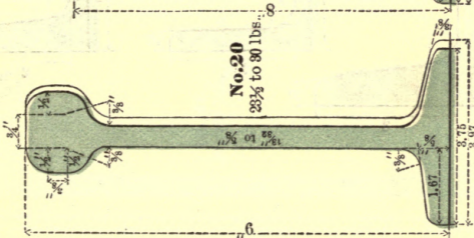
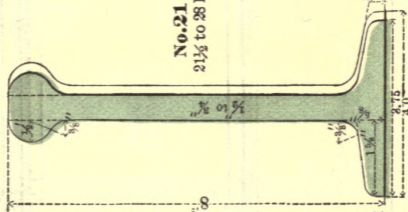
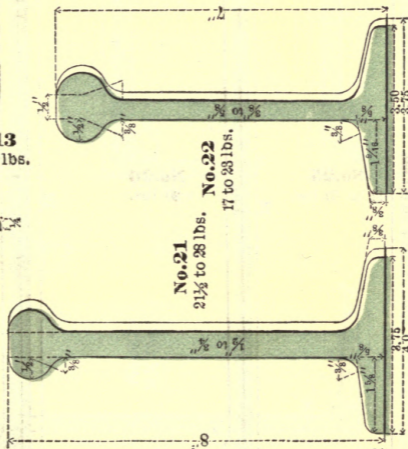
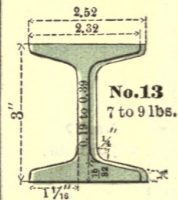
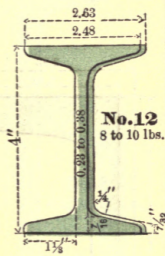
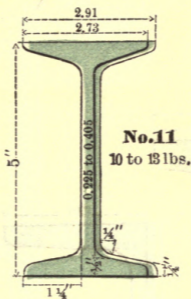
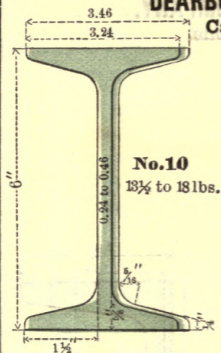


**No. 5**  
30 to 45 lbs.



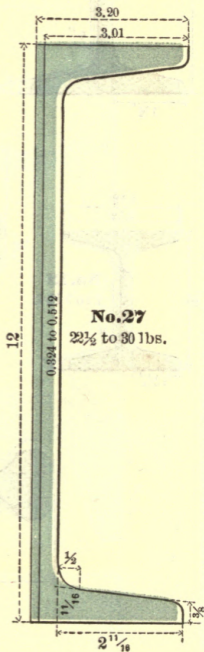
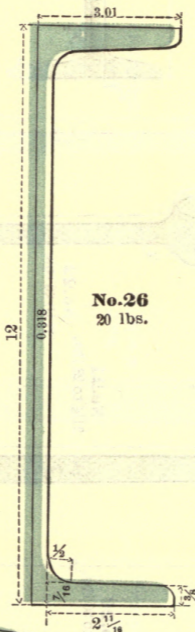
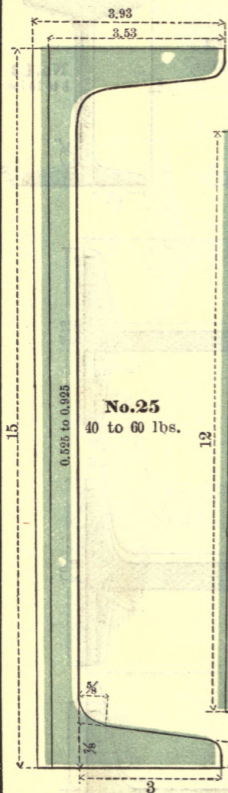
# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.



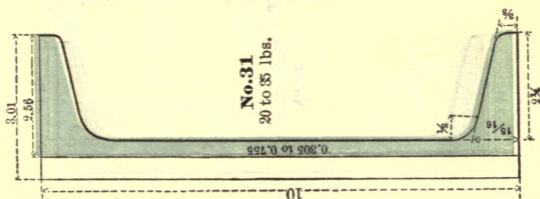
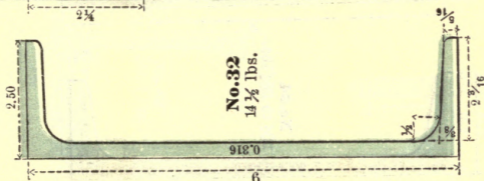
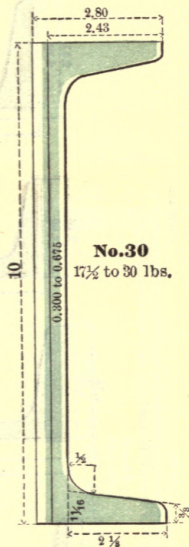
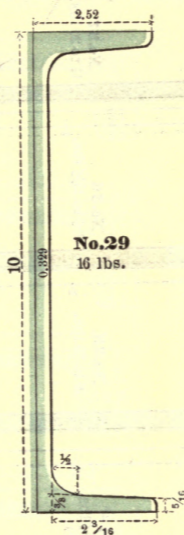
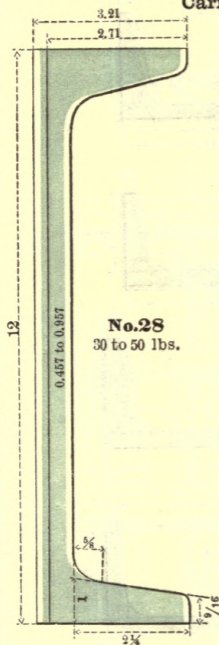
# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.



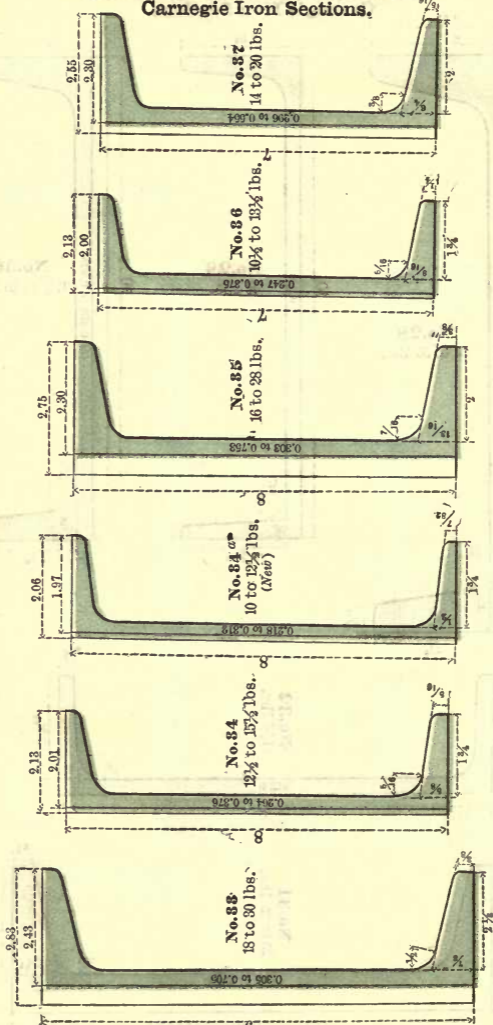
# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.



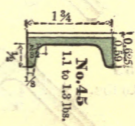
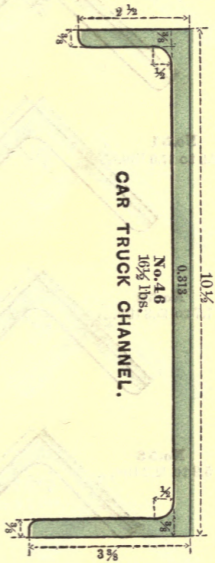
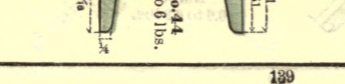
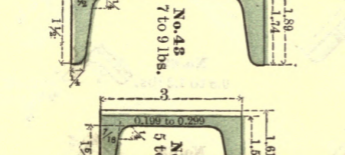
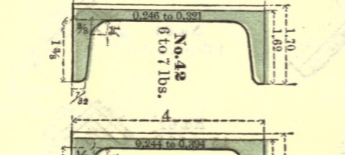
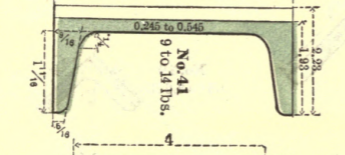
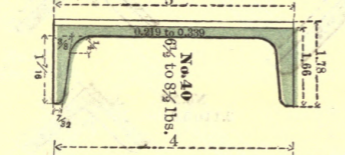
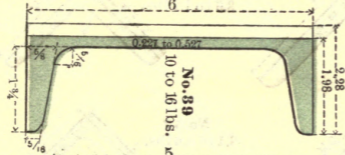
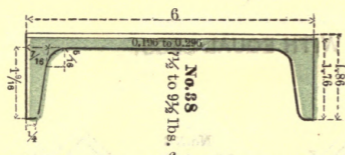
# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.



# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.



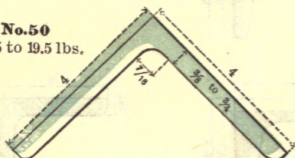
# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

### ANGLES WITH EQUAL LEGS.

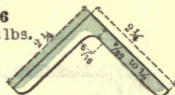
**No.50**

9.5 to 19.5 lbs.



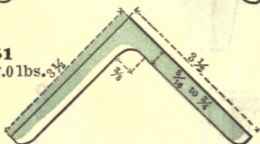
**No.56**

3.5 to 7.2 lbs.



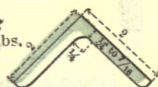
**No.51**

8.0 to 17.0 lbs. 3 1/2



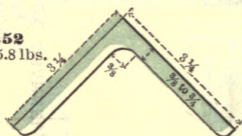
**No.57**

3.1 to 5.6 lbs.



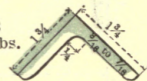
**No.52**

7.7 to 15.8 lbs.



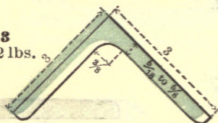
**No.58**

2.1 to 5.0 lbs.



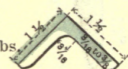
**No.53**

5.9 to 12.2 lbs.



**No.59**

1.8 to 3.6 lbs.



**No.54**

5.4 to 8.8 lbs.



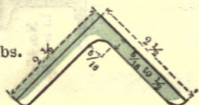
**No.61**

1.5 to 1.7 lbs.



**No.55**

4.9 to 8.0 lbs.



**No.62**

0.8 to 1.2 lbs.



**No.63**

0.6 to 0.9 lbs.

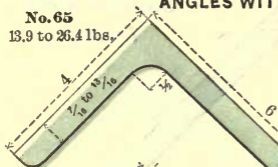


# DEARBORN FOUNDRY COMPANY.

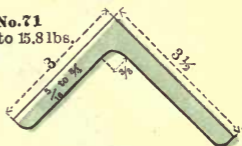
## Carnegie Iron Sections.

### ANGLES WITH UNEQUAL LEGS

**No. 65**  
13.9 to 26.4 lbs.



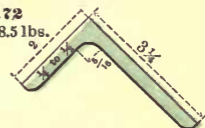
**No. 71**  
6.5 to 15.8 lbs.



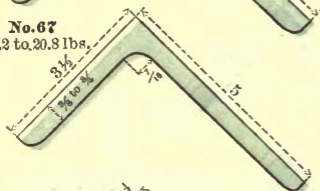
**No. 66**  
10.8 to 21.7 lbs.



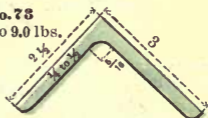
**No. 72**  
4.2 to 8.5 lbs.



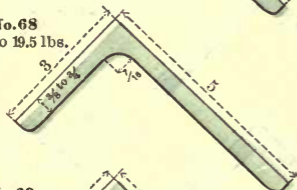
**No. 67**  
10.2 to 20.8 lbs.



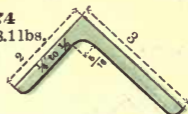
**No. 73**  
4.4 to 9.0 lbs.



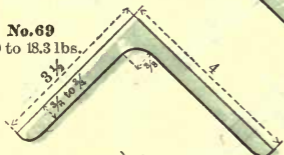
**No. 68**  
9.5 to 19.5 lbs.



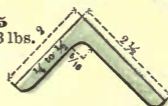
**No. 74**  
3.5 to 8.1 lbs.



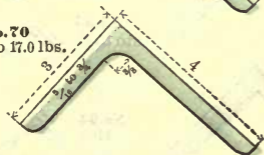
**No. 69**  
8.9 to 18.3 lbs.



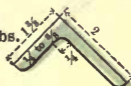
**No. 75**  
3.5 to 7.9 lbs.



**No. 70**  
7.5 to 17.0 lbs.



**No. 76**  
2.6 to 4.0 lbs.

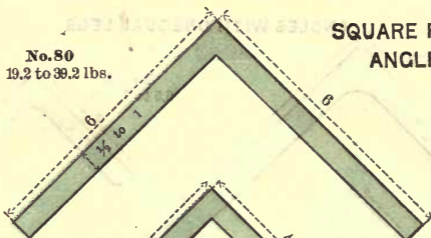


# DEARBORN FOUNDRY COMPANY.

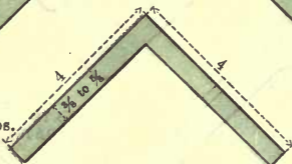
Carnegie Iron Sections.

## SQUARE ROOT ANGLES.

**No. 80**  
19.2 to 39.2 lbs.



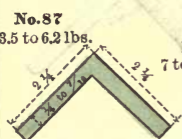
**No. 81**  
9.5 to 16.2 lbs.



**No. 82**  
7.6 to 13.5 lbs.



**No. 87**  
3.5 to 6.2 lbs.



**No. 88**  
7 to 13.2 lbs.



**No. 90**  
1.8 to 2.4 lbs.



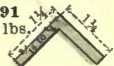
**No. 88**  
3.1 to 4.8 lbs.



**No. 84**  
5.8 to 10.8 lbs.



**No. 91**  
1.5 to 2 lbs.



**No. 89**  
2.7 to 4.2 lbs.



**No. 85**  
5.4 to 9.8 lbs.



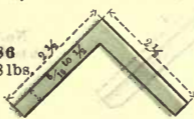
**No. 92**  
1.3 to 1.8 lbs.



**No. 93**  
0.8 to 1.2 lbs.



**No. 86**  
4.9 to 8 lbs.



**No. 94**  
0.9 lbs.  
(New)



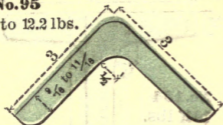
# DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

## COVER ANGLES.

**No.95**

10.2 to 12.2 lbs.



**No.96**

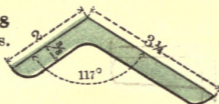
6.7 to 8.3 lbs.



## OBTUSE ANGLE

**No.98**

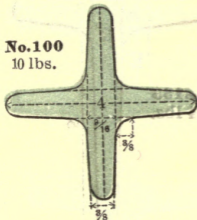
6 lbs.



## STAR IRON

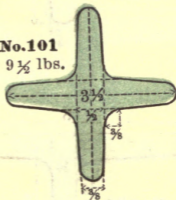
**No.100**

10 lbs.



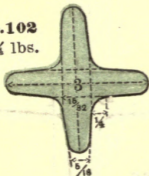
**No.101**

9 1/2 lbs.



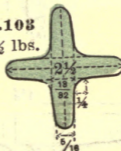
**No.102**

7 1/4 lbs.



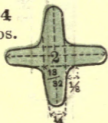
**No.103**

5 1/2 lbs.



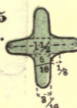
**No.104**

3 3/4 lbs.



**No.105**

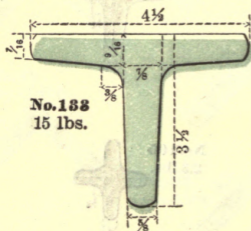
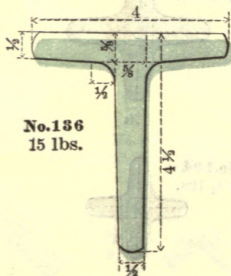
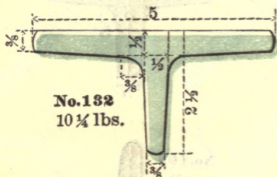
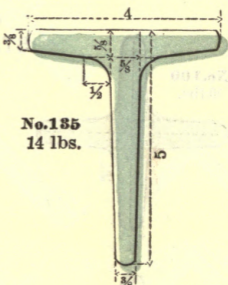
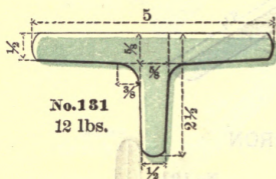
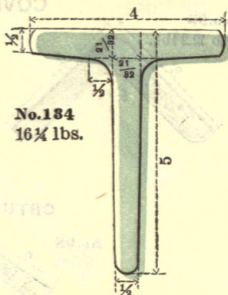
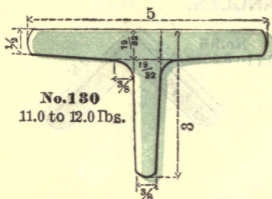
2.3 lbs.



# DEARBORN FOUNDRY COMPANY.

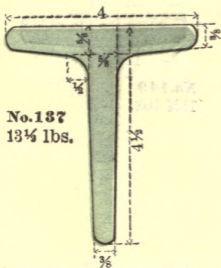
## Carnegie Iron Sections.

### T IRON

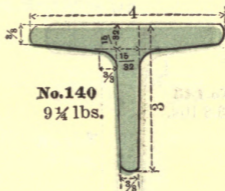


# DEARBORN FOUNDRY COMPANY.

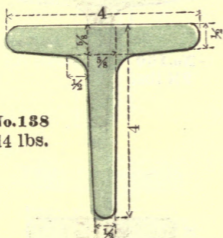
## Carnegie Iron Sections.



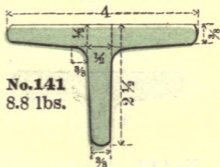
**No. 137**  
13 1/4 lbs.



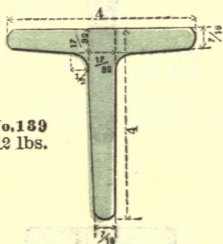
**No. 140**  
9 1/4 lbs.



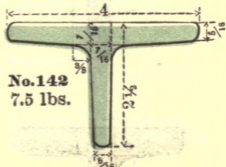
**No. 138**  
14 lbs.



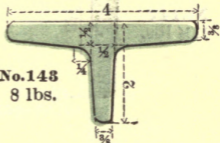
**No. 141**  
8.8 lbs.



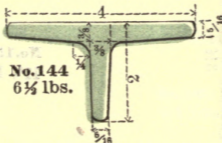
**No. 139**  
12 lbs.



**No. 142**  
7.5 lbs.



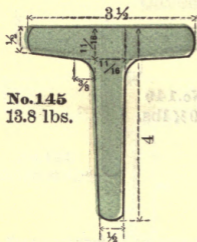
**No. 143**  
8 lbs.



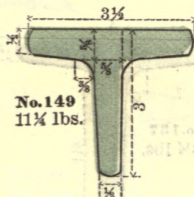
**No. 144**  
6 1/2 lbs.

# DEARBORN FOUNDRY COMPANY.

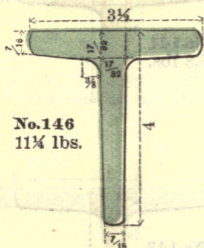
Carnegie Iron Sections.



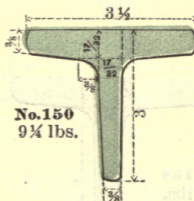
**No. 145**  
13.8 lbs.



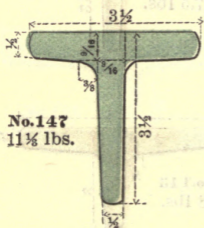
**No. 149**  
11 1/4 lbs.



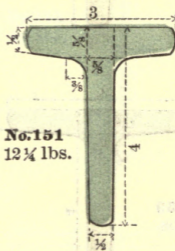
**No. 146**  
11 1/4 lbs.



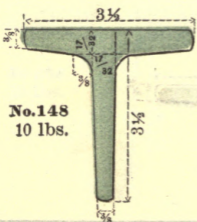
**No. 150**  
9 1/4 lbs.



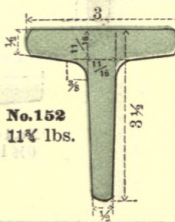
**No. 147**  
11 1/2 lbs.



**No. 151**  
12 1/4 lbs.



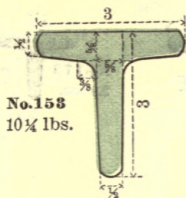
**No. 148**  
10 lbs.



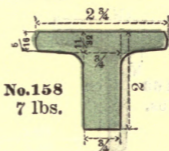
**No. 152**  
11 1/4 lbs.

# DEARBORN FOUNDRY COMPANY.

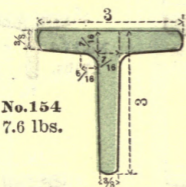
## Carnegie Iron Sections.



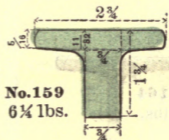
**No. 153**  
10 1/4 lbs.



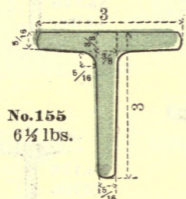
**No. 158**  
7 lbs.



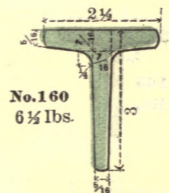
**No. 154**  
7.6 lbs.



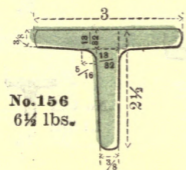
**No. 159**  
6 1/4 lbs.



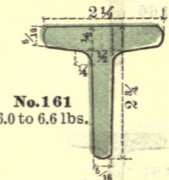
**No. 155**  
6 1/2 lbs.



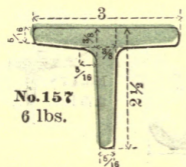
**No. 160**  
6 1/2 lbs.



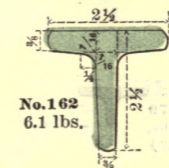
**No. 156**  
6 1/2 lbs.



**No. 161**  
6.0 to 6.6 lbs.



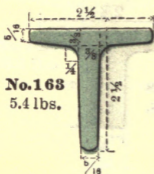
**No. 157**  
6 lbs.



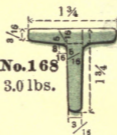
**No. 162**  
6.1 lbs.

# DEARBORN FOUNDRY COMPANY.

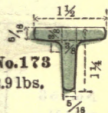
## Carnegie Iron Sections.



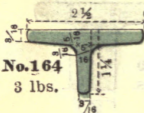
**No. 163**  
5.4 lbs.



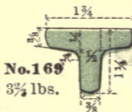
**No. 168**  
3.0 lbs.



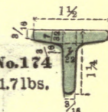
**No. 173**  
2.9 lbs.



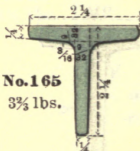
**No. 164**  
3 lbs.



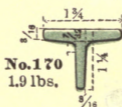
**No. 169**  
3 1/2 lbs.



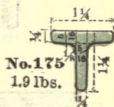
**No. 174**  
1.7 lbs.



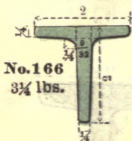
**No. 165**  
3 3/4 lbs.



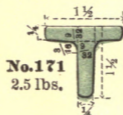
**No. 170**  
1.9 lbs.



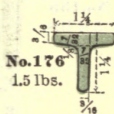
**No. 175**  
1.9 lbs.



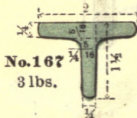
**No. 166**  
3 1/4 lbs.



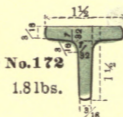
**No. 171**  
2.5 lbs.



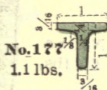
**No. 176**  
1.5 lbs.



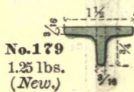
**No. 167**  
3 lbs.



**No. 172**  
1.8 lbs.



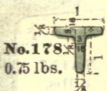
**No. 177**  
1.1 lbs.



**No. 179**  
1.25 lbs.  
(New.)



**No. 180**  
5.0 lbs.

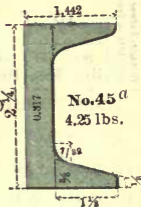
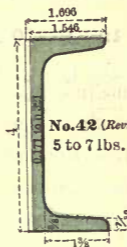
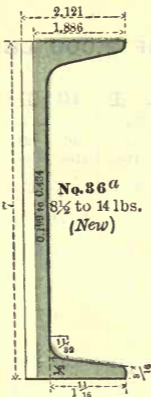
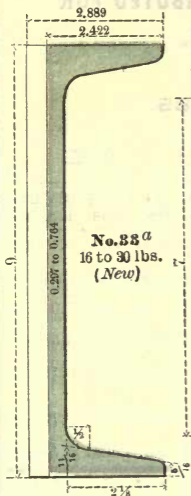


**No. 178**  
0.75 lbs.

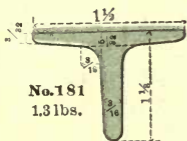
# DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

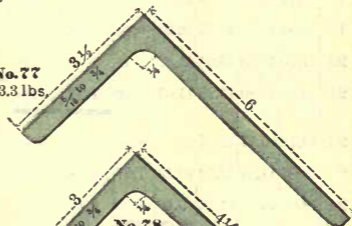
## ADDITIONAL SHAPES.



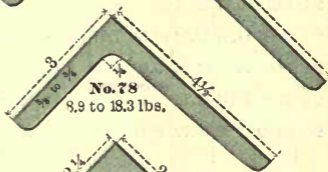
## T IRON



**No. 77**  
11.0 to 23.3 lbs.



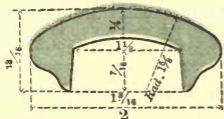
**No. 78**  
8.9 to 18.3 lbs.



**No. 79**  
8.55 lbs.

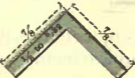


## HAND RAIL



**No. 197**  
2.3 lbs.

**No. 94<sup>a</sup>**  
0.68 to 0.86 lbs.



# DEARBORN FOUNDRY COMPANY.

## SAFE LOADS UNIFORMLY DISTRIBUTED FOR CARNEGIE IRON BEAMS.

IN TONS OF 2,000 LBS.

Distance between Supports in feet.	15" I			12" I		10½" I		10" I		9" I			
	80 lbs.	60 lbs.	50 lbs.	56½ lbs.	42 lbs.	40 lbs.	31½ lbs.	36 lbs.	30 lbs.	45 lbs.	38½ lbs.	28½ lbs.	23½ lbs.
12	36.17	27.80	23.23	19.37	15.27	12.80	10.47	11.37	9.72	12.85	11.12	8.16	6.83
13	33.39	25.66	21.45	17.88	14.09	11.81	9.66	10.50	8.97	11.86	10.26	7.54	6.31
14	31.00	23.83	19.91	16.60	13.09	10.97	8.97	9.75	8.33	11.01	9.53	7.00	5.86
15	28.93	22.25	18.59	15.49	12.21	10.24	8.37	9.10	7.78	10.28	8.90	6.53	5.47
16	27.13	20.85	17.43	14.52	11.45	9.60	7.85	8.53	7.29	9.64	8.34	6.13	5.13
17	25.53	19.63	16.40	13.67	10.78	9.04	7.39	8.03	6.86	9.07	7.85	5.77	4.82
18	24.11	18.53	15.49	12.91	10.18	8.53	6.98	7.58	6.48	8.57	7.41	5.44	4.56
19	22.84	17.56	14.67	12.23	9.64	8.08	6.61	7.18	6.14	8.12	7.02	5.16	4.32
20	21.70	16.68	13.94	11.62	9.16	7.68	6.28	6.83	5.83	7.71	6.67	4.90	4.10
21	20.67	15.89	13.28	11.07	8.72	7.31	5.98	6.50	5.56	7.34	6.36	4.67	3.90
22	19.73	15.17	12.67	10.56	8.33	6.98	5.71	6.20	5.30	7.01	6.07	4.45	3.73
23	18.87	14.51	12.12	10.10	7.97	6.68	5.46	5.93	5.07	6.70	5.80	4.26	3.57
24	18.08	13.90	11.62	9.68	7.63	6.40	5.23	5.69	4.86	6.42	5.56	4.08	3.42
25	17.36	13.34	11.15	9.30	7.33	6.14	5.02	5.46	4.67	6.17	5.33	3.92	3.28
26	16.69	12.83	10.72	8.94	7.05	5.91	4.83	5.25	4.49	5.93	5.13	3.77	3.15
27	16.07	12.35	10.33	8.61	6.79	5.69	4.65	5.06	4.32	5.71	4.94	3.63	3.04
28	15.50	11.91	9.96	8.30	6.54	5.49	4.49	4.88	4.17	5.51	4.77	3.50	2.93
29	14.96	11.50	9.61	8.01	6.32	5.30	4.33	4.71	4.02	5.32	4.60	3.38	2.83
30	14.47	11.12	9.29	7.75	6.11	5.12	4.19	4.55	3.89	5.14	4.45	3.27	2.73

Safe loads given, include weight of beam. Maximum fibre strain, 12,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SAFE LOADS UNIFORMLY DISTRIBUTED FOR CARNEGIE IRON BEAMS.

IN TONS OF 2,000 LBS.

Distance between Supports in feet.	8" I			7" I		6" I		5" I		4"	3" I	
	35 lbs.	27 lbs.	21½ lbs.	22 lbs.	18 lbs.	16 lbs.	13½ lbs.	12 lbs.	10 lbs.	7 lbs.	9 lbs.	5½ lbs.
5	22.40	16.51	13.23	11.85	10.11	7.74	6.51	4.60	4.00	2.28	1.89	1.34
6	18.67	13.76	11.03	9.88	8.43	6.45	5.43	3.83	3.33	1.90	1.58	1.12
7	16.00	11.79	9.45	8.47	7.22	5.53	4.65	3.29	2.86	1.63	1.35	0.96
8	14.00	10.32	8.27	7.41	6.52	4.84	4.07	2.88	2.50	1.43	1.18	0.84
9	12.44	9.17	7.35	6.58	5.62	4.30	3.62	2.56	2.22	1.27	1.05	0.74
10	11.20	8.26	6.62	5.93	5.06	3.87	3.26	2.30	2.00	1.14	0.95	0.67
11	10.18	7.50	6.01	5.39	4.60	3.52	2.96	2.09	1.82	1.04	0.86	0.61
12	9.33	6.88	5.51	4.94	4.21	3.22	2.71	1.92	1.67	0.95	0.79	0.56
13	8.62	6.35	5.09	4.56	3.89	2.98	2.50	1.77	1.54	0.88	0.73	0.52
14	8.00	5.90	4.73	4.23	3.61	2.76	2.33	1.64	1.43	0.81	0.68	0.48
15	7.47	5.50	4.41	3.95	3.37	2.58	2.17	1.53	1.33	0.76	0.63	0.45
16	7.00	5.16	4.13	3.70	3.16	2.42	2.03	1.44	1.25	0.71	0.59	0.42
17	6.59	4.86	3.89	3.49	2.97	2.28	1.91	1.35	1.18	0.67	0.56	0.39
18	6.22	4.59	3.68	3.29	2.81	2.15	1.81	1.28	1.11	0.63	0.53	0.37
19	5.90	4.34	3.48	3.12	2.66	2.04	1.71	1.21	1.05	0.60	0.50	0.35
20	5.60	4.13	3.31	2.96	2.53	1.94	1.63	1.15	1.00	0.57	0.47	0.34
21	5.33	3.93	3.15	2.82	2.41	1.84	1.55	1.10	0.95	0.54	0.45	0.32

Safe loads given, include weight of beam. Maximum fibre strain, 12,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SPACING OF CARNEGIE IRON BEAMS FOR UNIFORM LOAD OF 100 LBS. PER SQUARE FOOT.

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	15" I			12" I		10½" I		10" I		9" I			
	80 lbs.	60 lbs.	50 lbs.	56½ lbs.	42 lbs.	40 lbs.	31½ lbs.	36 lbs.	30 lbs.	45 lbs.	38½ lbs.	28½ lbs.	23½ lbs.
12	60.3	48.3	38.7	32.3	25.4	21.3	17.4	19.0	16.2	21.4	18.5	13.6	11.4
13	51.4	39.5	33.0	27.5	21.7	18.2	14.9	16.2	13.9	18.2	15.8	11.6	9.7
14	44.3	34.0	28.5	23.7	18.7	15.7	12.8	13.9	11.9	15.7	13.6	10.0	8.4
15	38.6	29.7	24.8	20.7	16.3	13.6	11.2	12.1	10.4	13.7	11.8	8.7	7.3
16	33.9	26.1	21.8	18.2	14.3	12.0	9.8	10.7	9.1	12.0	10.4	7.7	6.4
17	30.0	23.1	19.3	16.1	12.7	10.6	8.7	9.4	8.1	10.7	9.2	6.8	5.7
18	26.8	20.6	17.2	14.3	11.3	9.5	7.8	8.4	7.2	9.5	8.2	6.0	5.1
19	24.0	18.5	15.4	12.9	10.2	8.5	7.0	7.6	6.5	8.5	7.4	5.4	4.5
20	21.7	16.7	13.9	11.6	9.2	7.7	6.3	6.8	5.8	7.7	6.7	4.9	4.1
21	19.7	15.1	12.6	10.5	8.3	7.0	5.7	6.2	5.3	7.0	6.1	4.4	3.7
22	17.9	13.8	11.5	9.6	7.6	6.3	5.2	5.6	4.8	6.4	5.5	4.1	3.4
23	16.4	12.6	10.5	8.8	6.9	5.8	4.7	5.2	4.4	5.8	5.0	3.7	3.1
24	15.1	11.6	9.7	8.1	6.4	5.3	4.4	4.7	4.0	5.4	4.6	3.4	2.8
25	13.9	10.7	8.9	7.4	5.9	4.9	4.0	4.4	3.7	4.9	4.3	3.1	2.6
26	12.8	9.9	8.2	6.9	5.4	4.5	3.7	4.0	3.5	4.6	3.9	2.9	2.4
27	11.9	9.2	7.6	6.4	5.0	4.2	3.4	3.7	3.2	4.2	3.7	2.7	2.2
28	11.1	8.5	7.1	5.9	4.7	3.9	3.2	3.5	3.0	3.9	3.4	2.5	2.1
29	10.3	7.9	6.6	5.5	4.4	3.7	3.0	3.2	2.8	3.7	3.2	2.3	2.0
0	9.6	7.4	6.2	5.2	4.1	3.4	2.8	3.0	2.6	3.4	3.0	2.2	1.8

For load of 200 lbs. per square foot, divide the spacing given by 2.  
Maximum fibre strain, 12,000 lbs. per square inch.

# SPACING OF CARNEGIE IRON BEAMS FOR UNIFORM LOAD OF 100 LBS. PER SQUARE FOOT.

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	8" I			7" I		6" I		5" I		4"	3" I	
	35 lbs.	27 lbs.	21½ lbs.	22 lbs.	18 lbs.	16 lbs.	13½ lbs.	12 lbs.	10 lbs.	7 lbs.	9 lbs.	5½ lbs.
5	89.6	66.0	52.9	47.4	40.4	31.0	26.0	18.4	16.0	9.1	7.6	5.4
6	62.2	45.9	36.7	32.9	28.1	21.5	18.1	12.8	11.1	6.3	5.3	3.7
7	45.7	33.7	27.0	24.2	20.6	15.8	13.3	9.4	8.2	4.7	3.9	2.7
8	35.0	25.8	20.7	18.5	15.8	12.1	10.2	7.2	6.3	3.6	3.0	2.1
9	27.7	20.4	16.3	14.6	12.5	9.6	8.0	5.7	4.9	2.8	2.3	1.7
10	22.4	16.5	13.2	11.9	10.1	7.7	6.5	4.6	4.0	2.3	1.9	1.3
11	18.5	13.6	10.9	9.8	8.4	6.4	5.4	3.8	3.3	1.9	1.6	1.1
12	15.6	11.5	9.2	8.2	7.0	5.4	4.5	3.2	2.8	1.6	1.3	0.9
13	13.3	9.8	7.8	7.0	6.0	4.6	3.9	2.7	2.4	1.3	1.1	....
14	11.4	8.4	6.8	6.0	5.2	3.9	3.3	2.3	2.0	1.2	1.0	....
15	10.0	7.3	5.9	5.3	4.5	3.4	2.9	2.0	1.8	1.0	....	....
16	8.8	6.4	5.2	4.6	3.9	3.0	2.5	1.8	1.6	....	....	....
17	7.8	5.7	4.6	4.1	3.5	2.7	2.3	1.6	1.4	....	....	....
18	6.9	5.1	4.1	3.7	3.1	2.4	2.0	1.4	1.2	....	....	....
19	6.2	4.6	3.7	3.3	2.8	2.1	1.8	1.3	1.1	....	....	....
20	5.6	4.1	3.3	3.0	2.5	1.9	1.6	1.2	1.0	....	....	....
21	5.1	3.7	3.0	2.7	2.3	1.8	1.5	1.0	.....	.....	.....	.....
22	4.6	3.4	2.7	2.4	2.1	1.6	1.3	.....	.....	.....	.....	.....

For load of 200 lbs. per square foot, divide the spacing given by 2.  
Maximum fibre strain, 12,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SPACING OF CARNEGIE IRON BEAMS FOR UNIFORM LOAD OF 125 LBS. PER SQUARE FOOT.

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet	15" I			12" I		10½" I		10" I		9" I			
	80 lbs.	60 lbs.	50 lbs.	56½ lbs.	42 lbs.	40 lbs.	31½ lbs.	36 lbs.	30 lbs.	45 lbs.	38½ lbs.	28½ lbs.	23½ lbs.
12	48.2	27.0	31.0	25.8	20.3	17.0	13.9	15.2	13.0	17.1	14.8	10.9	9.1
13	41.1	31.6	26.4	22.0	17.3	14.6	11.9	12.9	11.1	14.6	12.6	9.3	7.8
14	35.4	27.2	22.8	19.0	15.0	12.5	10.3	11.1	9.5	12.6	10.9	8.0	6.7
15	30.9	23.7	19.8	16.5	13.0	10.9	8.9	9.7	8.3	11.0	9.5	7.0	5.8
16	27.1	20.9	17.4	14.5	11.5	9.6	7.9	8.5	7.3	9.6	8.3	6.1	5.1
17	24.0	18.5	15.4	12.9	10.1	8.5	7.0	7.6	6.5	8.5	7.4	5.4	4.5
18	21.4	16.5	13.8	11.5	9.0	7.6	6.2	6.7	5.8	7.6	6.6	4.8	4.0
19	19.2	14.8	12.4	10.3	8.1	6.8	5.6	6.1	5.2	6.8	5.9	4.3	3.6
20	17.4	13.3	11.2	9.3	7.3	6.1	5.0	5.5	4.7	6.2	5.3	3.9	3.3
21	15.7	12.1	10.1	8.4	6.6	5.6	4.6	5.0	4.3	5.6	4.8	3.6	3.0
22	14.3	11.0	9.2	7.7	6.1	5.1	4.2	4.5	3.9	5.1	4.4	3.2	2.7
23	13.1	10.1	8.4	7.0	5.5	4.6	3.8	4.1	3.5	4.7	4.0	3.0	2.5
24	12.1	9.3	7.7	6.4	5.1	4.3	3.5	3.8	3.2	4.3	3.7	2.7	2.3
25	11.1	8.5	7.1	5.9	4.7	3.9	3.2	3.5	3.0	3.9	3.4	2.5	2.1
26	10.3	7.9	6.6	5.5	4.3	3.6	3.0	3.2	2.8	3.6	3.2	2.3	1.9
27	9.5	7.3	6.1	5.1	4.0	3.4	2.8	3.0	2.6	3.4	2.9	2.2	1.8
28	8.9	6.8	5.7	4.7	3.7	3.1	2.6	2.8	2.4	3.1	2.7	2.0	1.7
29	8.3	6.3	5.3	4.4	3.5	2.9	2.4	2.6	2.2	2.9	2.5	1.9	1.6
30	7.7	5.9	5.0	4.1	3.3	2.7	2.2	2.4	2.1	2.7	2.4	1.7	1.5

For load of 250 lbs. per square foot, divide the spacing given by 2.  
Maximum fibre strain, 12,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SPACING OF CARNEGIE IRON BEAMS FOR UNIFORM LOAD OF 125 LBS. PER SQUARE FOOT.

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	8" I			7" I		6" I		5" I		4"	3" I	
	35 lbs.	27 lbs.	21½ lbs.	22 lbs.	18 lbs.	16 lbs.	13½ lbs.	12 lbs.	10 lbs.	7 lbs.	9 lbs.	5½ lbs.
5	71.8	52.9	42.4	38.0	32.4	24.8	20.9	14.7	12.8	7.3	6.1	4.3
6	49.8	36.7	29.4	26.3	22.5	17.2	14.5	10.2	8.9	5.1	4.2	3.0
7	36.6	27.0	21.6	19.3	16.5	12.6	10.6	7.5	6.5	3.7	3.1	2.2
8	28.0	21.1	16.5	14.8	12.6	9.7	8.1	5.8	5.0	2.9	2.4	1.7
9	22.1	16.3	13.1	11.7	10.0	7.6	6.4	4.5	4.0	2.3	1.9	1.3
10	17.9	13.2	10.6	9.5	8.1	6.2	5.2	3.7	3.2	1.8	1.5	1.1
11	14.8	10.9	8.7	7.8	6.7	5.1	4.3	3.0	2.6	1.5	1.2	0.9
12	12.4	9.2	7.4	6.6	5.6	4.3	3.6	2.6	2.2	1.3	1.1	....
13	10.6	7.8	6.3	5.6	4.8	3.7	3.1	2.2	1.9	1.1	0.9	....
14	9.1	6.7	5.4	4.8	4.1	3.2	2.7	1.9	1.6	0.9	....	....
15	8.0	5.9	4.7	4.2	3.6	2.8	2.3	1.6	1.4	....	....	....
16	7.0	5.2	4.1	3.7	3.2	2.4	2.0	1.4	1.3	....	....	....
17	6.2	4.6	3.7	3.3	2.8	2.1	1.8	1.3	1.1	....	....	....
18	5.5	4.1	3.3	2.9	2.5	1.9	1.6	1.1	1.0	....	....	....
19	5.0	3.7	2.9	2.6	2.2	1.7	1.4	1.0	.....	....	....	....
20	4.5	3.3	2.6	2.4	2.0	1.5	1.3	.....	.....	....	....	....
21	4.1	3.0	2.4	2.2	1.8	1.4	1.2	.....	.....	....	....	....
22	3.7	2.7	2.2	2.0	1.7	1.3	1.1	.....	.....	....	....	....

For load of 250 lbs. per square foot, divide the spacing given by 2.  
Maximum fibre strain, 12,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SPACING OF CARNEGIE IRON BEAMS FOR UNIFORM LOAD OF 150 LBS. PER SQUARE FOOT.

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	15" I			12" I		10½" I		10" I		9" I			
	80 lbs.	60 lbs.	50 lbs.	56½ lbs.	42 lbs.	40 lbs.	31½ lbs.	36 lbs.	30 lbs.	45 lbs.	38½ lbs.	28½ lbs.	23½ lbs.
12	40.2	30.9	25.8	21.5	16.9	14.2	11.6	12.7	10.8	14.3	12.3	9.1	7.6
13	34.3	26.3	22.0	18.3	14.5	12.1	9.9	10.8	9.3	12.1	10.5	7.7	6.5
14	29.5	22.7	19.0	15.8	12.5	10.5	8.5	9.3	7.9	10.5	9.1	6.7	5.6
15	25.7	19.8	16.5	13.8	10.9	9.1	7.5	8.1	6.9	9.1	7.9	5.8	4.9
16	22.6	17.4	14.5	12.1	9.5	8.0	6.5	7.1	6.1	8.0	6.9	5.1	4.3
17	20.0	15.4	12.9	10.7	8.5	7.1	5.8	6.3	5.4	7.1	6.1	4.5	3.8
18	17.9	13.7	11.5	9.5	7.5	6.3	5.2	5.6	4.8	6.3	5.5	4.0	3.4
19	16.0	12.3	10.3	8.6	6.8	5.7	4.7	5.1	4.3	5.7	4.9	3.6	3.0
20	14.5	11.1	9.3	7.7	6.1	5.1	4.2	4.5	3.9	5.1	4.5	3.3	2.7
21	13.1	10.1	8.4	7.0	5.5	4.7	3.8	4.1	3.5	4.7	4.1	2.9	2.5
22	11.9	9.2	7.7	6.4	5.1	4.2	3.5	3.7	3.2	4.3	3.7	2.7	2.3
23	10.9	8.4	7.0	5.9	4.6	3.9	3.1	3.5	2.9	3.9	3.4	2.5	2.1
24	10.1	7.7	6.5	5.4	4.3	3.5	2.9	3.1	2.7	3.6	3.1	2.3	1.9
25	9.3	7.1	5.9	4.9	3.9	3.3	2.7	2.9	2.5	3.3	2.8	2.1	1.7
26	8.5	6.6	5.5	4.6	3.6	3.0	2.5	2.7	2.3	3.0	2.6	1.9	1.6
27	7.9	6.1	5.1	4.3	3.3	2.8	2.3	2.5	2.1	2.8	2.5	1.8	1.5
28	7.4	5.7	4.7	3.9	3.1	2.6	2.1	2.3	2.0	2.6	2.3	1.7	1.4
29	6.9	5.3	4.4	3.7	2.9	2.5	2.0	2.1	1.9	2.5	2.1	1.6	1.3
30	6.4	4.9	4.1	3.5	2.7	2.3	1.9	2.0	1.7	2.3	2.0	1.5	1.2

For load of 300 lbs. per square foot, divide the spacing given by 2.  
Maximum fibre strain, 12,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SPACING OF CARNEGIE IRON BEAMS FOR UNIFORM LOAD OF 150 LBS. PER SQUARE FOOT.

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	8" I			7" I		6" I		5" I		4"	3" I	
	35 lbs	27 lbs.	21½ lbs.	22 lbs.	18 lbs.	16 lbs.	13½ lbs.	12 lbs.	10 lbs.	7 lbs.	9 lbs.	5½ lbs.
5	59.7	44.0	35.3	31.6	26.9	20.7	17.3	12.3	10.7	6.1	5.1	3.6
6	41.5	30.6	24.5	21.9	18.7	14.3	12.1	8.5	7.4	4.2	3.5	2.5
7	30.5	22.5	18.0	16.1	13.7	10.5	8.9	6.3	5.5	3.1	2.6	1.8
8	23.3	17.2	13.8	12.3	10.5	8.1	6.8	4.8	4.2	2.4	2.0	1.4
9	18.5	13.6	10.9	9.7	8.5	6.4	5.3	3.8	3.3	1.9	1.5	1.1
10	14.9	11.0	8.8	7.9	6.7	5.1	4.3	3.1	2.7	1.5	1.3	0.9
11	12.3	9.1	7.3	6.5	5.6	4.3	3.6	2.5	2.2	1.3	1.1	....
12	10.4	7.7	6.1	5.5	4.7	3.6	3.0	2.1	1.9	1.1	0.9	....
13	8.9	6.5	5.2	4.7	4.0	3.1	2.6	1.8	1.6	0.9	....	....
14	7.6	5.6	4.5	4.0	3.5	2.6	2.2	1.5	1.3	....	....	....
15	6.7	4.9	3.9	3.5	3.0	2.3	1.9	1.3	1.2	....	....	....
16	5.9	4.3	3.5	3.1	2.6	2.0	1.7	1.2	1.1	....	....	....
17	5.2	3.8	3.1	2.7	2.3	1.8	1.5	1.1	0.9	....	....	....
18	4.6	3.4	2.7	2.5	2.1	1.6	1.3	0.9	....	....	....	....
19	4.1	3.1	2.5	2.2	1.9	1.4	1.2	....	....	....	....	....
20	3.7	2.7	2.2	2.0	1.7	1.3	1.1	....	....	....	....	....
21	3.4	2.5	2.0	1.8	1.5	1.2	1.0	....	....	....	....	....
22	3.1	2.3	1.8	1.6	1.4	1.1	....	....	....	....	....	....

For load of 300 lbs. per square foot, divide the spacing given by 2.  
Maximum fibre strain, 12,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SPACING OF CARNEGIE IRON BEAMS FOR UNIFORM LOAD OF 175 LBS. PER SQUARE FOOT.

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet	15" I			12" I		10½" I		10" I		9" I			
	80 lbs.	60 lbs.	50 lbs.	56½ lbs.	42 lbs.	40 lbs.	31½ lbs.	36 lbs.	30 lbs.	45 lbs.	38½ lbs.	28½ lbs.	23½ lbs.
12	34.5	26.5	22.1	18.5	14.5	12.2	9.9	10.9	9.3	12.2	10.6	7.8	6.5
13	29.4	22.6	18.9	15.7	12.4	10.4	8.5	9.3	7.9	10.4	9.0	6.6	5.5
14	25.3	19.4	16.3	13.5	10.7	9.0	7.3	7.9	6.8	9.0	7.8	5.7	4.8
15	22.1	17.0	14.2	11.8	9.3	7.8	6.4	6.9	5.9	7.8	6.7	5.0	4.2
16	19.4	14.9	12.5	10.4	8.2	6.9	5.6	6.1	5.2	6.9	5.9	4.4	3.7
17	17.1	13.2	11.0	9.2	7.3	6.1	5.0	5.4	4.6	6.1	5.3	3.9	3.3
18	15.3	11.8	9.8	8.2	6.5	5.4	4.5	4.8	4.1	5.4	4.7	3.4	2.9
19	13.7	10.6	8.8	7.4	5.8	4.9	4.0	4.3	3.7	4.9	4.2	3.1	2.6
20	12.4	9.5	7.9	6.6	5.3	4.4	3.6	3.9	3.3	4.4	3.8	2.8	2.3
21	11.3	8.6	7.2	6.0	4.8	4.0	3.3	3.5	3.0	4.0	3.5	2.5	2.1
22	10.2	7.9	6.6	5.5	4.3	3.6	3.0	3.2	2.7	3.7	3.1	2.3	1.9
23	9.4	7.2	6.0	5.0	3.9	3.3	2.7	3.0	2.5	3.4	2.9	2.1	1.8
24	8.6	6.6	5.5	4.6	3.6	3.0	2.5	2.7	2.3	3.1	2.7	1.9	1.6
25	7.9	6.1	5.1	4.2	3.3	2.8	2.3	2.5	2.1	2.8	2.5	1.8	1.5
26	7.3	5.7	4.7	3.9	3.1	2.6	2.1	2.3	1.9	2.6	2.2	1.7	1.4
27	6.8	5.3	4.4	3.7	2.9	2.4	1.9	2.1	1.8	2.4	2.0	1.5	1.3
28	6.3	4.9	4.1	3.4	2.7	2.2	1.8	2.0	1.7	2.2	1.9	1.4	1.2
29	5.9	4.5	3.8	3.2	2.5	2.1	1.7	1.8	1.6	2.1	1.8	1.3	1.1
30	5.5	4.2	3.5	3.0	2.3	1.9	1.6	1.7	1.5	1.9	1.7	1.3	1.0

For load of 350 lbs. per square foot, divide the spacing given by 2.  
Maximum fibre strain, 12,000 lbs. per square inch.

# DEARBORN FOUNDRY COMPANY.

## SPACING OF CARNEGIE IRON BEAMS FOR UNIFORM LOAD OF 175 LBS. PER SQUARE FOOT.

Proper Distance in Feet, Center to Center of Beams.

Distance between Supports in feet.	8" I			7" I		6" I		5" I		4"	3" I	
	35 lbs.	27 lbs.	21½ lbs.	22 lbs.	18 lbs.	16 lbs.	13½ lbs.	12 lbs.	10 lbs.	7 lbs.	9 lbs.	5½ lbs.
5	51.2	37.7	30.2	27.1	23.1	17.7	14.9	10.5	9.1	5.2	4.3	3.1
6	35.5	26.2	21.0	18.8	16.1	12.3	10.3	7.3	6.3	3.6	3.0	2.1
7	26.1	19.3	15.4	13.8	11.8	9.0	7.6	5.4	4.7	2.7	2.2	1.5
8	20.0	14.7	11.8	10.6	9.0	6.9	5.8	4.1	3.6	2.1	1.7	1.2
9	15.8	11.7	9.3	8.3	7.1	5.5	4.6	3.3	2.8	1.6	1.3	1.0
10	12.8	9.4	7.5	6.8	5.8	4.4	3.7	2.6	2.3	1.3	1.1	....
11	10.6	7.8	6.2	5.6	4.8	3.7	3.1	2.2	1.9	1.1	0.9	....
12	8.9	6.6	5.3	4.7	4.0	3.1	2.6	1.8	1.6	0.9	....	....
13	7.6	5.6	4.5	4.0	3.4	2.6	2.2	1.5	1.4	....	....	....
14	6.5	4.8	3.9	3.4	3.0	2.2	1.9	1.3	1.1	....	....	....
15	5.7	4.2	3.4	3.0	2.6	1.9	1.7	1.1	1.0	....	....	....
16	5.0	3.7	3.0	2.6	2.3	1.7	1.5	1.0	....	....	....	....
17	4.5	3.3	2.6	2.3	2.0	1.5	1.3	....	....	....	....	....
18	4.0	2.9	2.3	2.1	1.8	1.4	1.1	....	....	....	....	....
19	3.5	2.6	2.1	1.9	1.6	1.2	1.0	....	....	....	....	....
20	3.2	2.3	1.9	1.7	1.4	1.1	....	....	....	....	....	....
21	2.9	2.1	1.7	1.5	1.3	1.0	....	....	....	....	....	....
22	2.6	1.9	1.6	1.4	1.2	....	....	....	....	....	....	....

For load of 350 lbs. per square foot, divide the spacing given by 2.  
Maximum fibre strain, 12,000 lbs. per square inch.

DEARBORN FOUNDRY COMPANY,

1525 Dearborn Street,

Chicago, Ill.

## WROUGHT IRON I BEAMS, STEEL I BEAMS.

**A FULL ASSORTMENT OF ALL SIZES CARRIED IN STOCK**

*Low Prices and Prompt Delivery Guaranteed.*

In cutting Beams from Stock there is usually some waste, which together with the cost of cutting, renders it necessary to make an additional charge for Beams cut from stock ; hence it is always better to order in advance of time when same are required, in order that they may be rolled and cut to length ordered.

## DEARBORN FOUNDRY COMPANY.

### EXPLANATION OF TABLES ON CARNEGIE SECTIONS OF **I** BEAMS.

PAGES 161 TO 185 INCLUSIVE.

These tables are calculated for the lightest and heaviest weights to which each shape or size can be rolled, the term shape being meant to include the variable sections which are rolled in the same grooves by increasing or reducing the distance between the rolls. Each shape is designated by a single number.

These tables give:

I. In second column, the load which a beam will carry safely, distributed uniformly over its length, for the distances between supports (or lengths of span ) given in first column ;

II. In fifth to eleventh columns inclusive, the distances between centers at which beams should be placed in floors, to carry safely loads of 100, 125, 150, 175, 200, 250 and 300 lbs. per square foot (including the weight of the beams), for the distances between supports given in first column ;

III. In third column, the deflection of the beams at center under these loads.

IV. In fourth column, the weight of the beam itself, for a length equal to the distance between supports.

To determine the load which a beam will carry exclusive of its own weight, the figures in fourth column must be subtracted from the figures in second column.

It is assumed in these tables that proper provision is made for preventing the compression flanges of the beams from deflecting sideways. They should be held in position at distances not exceeding twenty times the width of flange, otherwise the strain allowed should be reduced.

If the deflection of beams carrying plastered ceilings exceeds  $\frac{1}{360}$ th of the distance between supports, or  $\frac{1}{360}$ th of an inch per foot of this distance, there is danger of the ceiling cracking, as has been found by practical tests. This limit is indicated in the following tables by a cross line, beyond which the spans and loads must not be used for beams intended to carry plastered ceilings. It may generally be assumed, both for rolled and

built beams, that the above limit is not exceeded so long as the depth of beam is not greater than  $\frac{1}{4}$ th of the distance between supports, or  $\frac{1}{2}$  inch per foot of this distance.

Inasmuch as the carrying capacity of beams increases largely with their depth, and it is therefore economical to use the greatest depth of beam consistent with the other conditions to which it is necessary to conform, (as clear height, etc.,) the above cases of extreme deflection will rarely be met with in practice.

### EXAMPLES OF APPLICATION OF TABLES.

I. What size and weight of beam 19'-3'' long in clear between walls, and therefore say 20'-0'' long between centers of supports, will be required to carry safely a uniformly distributed load of 15 tons, the weight of the beam included?

*Answer:* A 15'' beam, No. 1, heavy, 65 lbs. per foot, will be sufficient, since the safe load, as per table, for 20' length, = 16.38 t.

It is evident, however, that a beam intermediate in weight between 50 lbs. and 65 lbs. can be used, to ascertain which, proceed as follows:

The safe load for a 15'' beam 50 lbs. per foot = 14.12 t. Since therefore an increase in the carrying capacity of beam, of 2.26 t., (16.38 t. — 14.12 t.,) requires an increase of its weight of 15 lbs., (65 lbs. — 50 lbs.,) therefore an increase of its carrying capacity of 0.88 t., (15 t. — 14.12 t.,) will require  $\frac{0.88}{2.26} \times 15 = 6$  lbs. increase of weight of beam, *i. e.*, the beam should weigh 56 lbs. per foot.

II. A fire-proof floor 24'-6'' in clear between walls, weighing, inclusive of beams, 70 lbs. per square foot, (assumed,) is to be proportioned to carry an additional load of 130 lbs. per square foot; what size and weight of beams will be required, and how far apart should they be placed?

*Answer:* The total load = 200 lbs. per square foot, and the distance between supports = 25', *i. e.* 6'' greater than the distance in clear between walls. By referring to tables, it will be seen that either light 12'' beams weighing 42 lbs. per foot, spaced 2.9 ft. between centers, or light 15'' beams, 50 lbs., spaced 4.5 ft. between centers, will answer the purpose, but since the 12'' beams for this span and load are beyond the cross-line, they must not be used if intended to carry a plastered ceiling.

# DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

## 15-INCH I BEAM, No. 2, HEAVY, 80 LBS. PER FOOT.

Depth, 15". Width of Flanges, 5.81". Thickness of Web, 0.93".

Maximum fiber strain = .12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	40.00	0.09	0.40	80.0	64.0	53.3	45.7	40.0	32.0	26.7
11	36.36	0.11	0.44	66.1	52.9	44.1	37.3	33.1	26.4	22.0
12	33.33	0.13	0.48	55.6	44.4	37.0	31.7	27.8	22.2	18.5
13	30.77	0.16	0.52	47.3	37.9	31.6	27.1	23.7	18.9	15.8
14	28.57	0.18	0.56	40.8	32.6	27.2	23.3	20.4	16.3	13.6
15	26.67	0.21	0.60	35.6	28.4	23.7	20.3	17.8	14.2	11.9
16	25.00	0.24	0.64	31.3	25.0	20.8	17.9	15.6	12.5	10.4
17	23.53	0.27	0.68	27.7	22.1	18.5	15.8	13.8	11.1	9.2
18	22.22	0.30	0.72	24.7	19.8	16.5	14.1	12.3	9.9	8.2
19	21.05	0.33	0.76	22.2	17.7	14.8	12.6	11.1	8.9	7.4
20	20.00	0.37	0.80	20.0	16.0	13.3	11.4	10.0	8.0	6.7
21	19.05	0.41	0.84	18.1	14.5	12.1	10.4	9.1	7.3	6.0
22	18.18	0.45	0.88	16.5	13.2	11.0	9.4	8.3	6.6	5.5
23	17.39	0.49	0.92	15.1	12.1	10.1	8.6	7.6	6.0	5.0
24	16.67	0.53	0.96	13.9	11.1	9.3	7.9	6.9	5.6	4.6
25	16.00	0.58	1.00	12.8	10.2	8.5	7.3	6.4	5.1	4.3
26	15.38	0.62	1.04	11.8	9.5	7.9	6.8	5.9	4.7	3.9
27	14.81	0.67	1.08	11.0	8.8	7.3	6.3	5.5	4.4	3.7
28	14.29	0.72	1.12	10.2	8.2	6.8	5.8	5.1	4.1	3.4
29	13.79	0.78	1.16	9.5	7.6	6.3	5.4	4.8	3.8	3.2
30	13.33	0.83	1.20	8.9	7.1	5.9	5.1	4.4	3.6	3.0
31	12.90	0.89	1.24	8.3	6.6	5.5	4.8	4.2	3.3	2.8
32	12.50	0.95	1.28	7.8	6.2	5.2	4.5	3.9	3.1	2.6
33	12.12	1.01	1.32	7.3	5.9	4.9	4.2	3.7	2.9	2.4
34	11.76	1.07	1.36	6.9	5.5	4.6	3.9	3.5	2.8	2.3
35	11.43	1.13	1.40	6.5	5.2	4.3	3.7	3.3	2.6	2.2
36	11.11	1.20	1.44	6.2	4.9	4.1	3.5	3.1	2.5	2.1
37	10.81	1.26	1.48	5.8	4.7	3.9	3.3	2.9	2.3	1.9
38	10.53	1.33	1.52	5.5	4.4	3.7	3.2	2.8	2.2	1.8
39	10.26	1.40	1.56	5.3	4.2	3.5	3.0	2.6	2.1	1.8

# DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

## 15-INCH I BEAM, No. 2, LIGHT, 67 LBS. PER FOOT.

Depth, 15". Width of Flanges, 5.55". Thickness of Web, 0.67".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	36.12	0.09	0.34	72.2	57.8	48.2	41.3	36.1	28.9	24.1
11	32.84	0.11	0.37	59.7	47.8	39.8	34.1	29.9	23.9	19.9
12	30.10	0.13	0.40	50.2	40.1	33.4	28.7	25.1	20.1	16.7
13	27.78	0.16	0.44	42.7	34.2	28.5	24.4	21.4	17.1	14.2
14	25.80	0.18	0.47	36.9	29.5	24.6	21.1	18.4	14.7	12.3
15	24.08	0.21	0.50	32.1	25.7	21.4	18.3	16.1	12.8	10.7
16	22.58	0.24	0.54	28.2	22.6	18.8	16.1	14.1	11.3	9.4
17	21.25	0.27	0.57	25.0	20.0	16.7	14.3	12.5	10.0	8.3
18	20.07	0.30	0.60	22.3	17.8	14.9	12.7	11.2	8.9	7.4
19	19.01	0.33	0.64	20.0	16.0	13.3	11.4	10.0	8.0	6.7
20	18.06	0.37	0.67	18.1	14.4	12.0	10.3	9.0	7.2	6.0
21	17.20	0.41	0.70	16.4	13.1	10.9	9.4	8.2	6.6	5.5
22	16.42	0.45	0.74	14.9	11.9	10.0	8.5	7.5	6.0	5.0
23	15.70	0.49	0.77	13.7	10.9	9.1	7.8	6.8	5.5	4.6
24	15.05	0.53	0.80	12.5	10.0	8.4	7.2	6.3	5.0	4.2
25	14.45	0.58	0.84	11.6	9.2	7.7	6.7	5.8	4.6	3.9
26	13.89	0.62	0.87	10.7	8.5	7.1	6.1	5.3	4.3	3.6
27	13.38	0.67	0.91	9.9	7.9	6.6	5.6	5.0	4.0	3.3
28	12.90	0.72	0.94	9.2	7.4	6.2	5.3	4.6	3.7	3.1
29	12.46	0.78	0.97	8.6	6.9	5.7	4.9	4.3	3.4	2.9
30	12.04	0.83	1.01	8.0	6.4	5.4	4.6	4.0	3.2	2.7
31	11.65	0.89	1.04	7.5	6.0	5.0	4.3	3.8	3.0	2.5
32	11.29	0.95	1.07	7.1	5.6	4.7	4.0	3.5	2.8	2.4
33	10.95	1.01	1.11	6.6	5.3	4.4	3.8	3.3	2.7	2.2
34	10.62	1.07	1.14	6.2	5.0	4.1	3.6	3.1	2.5	2.1
35	10.32	1.13	1.17	5.9	4.7	3.9	3.4	2.9	2.4	2.0
36	10.03	1.20	1.21	5.6	4.5	3.7	3.2	2.8	2.2	1.9
37	9.76	1.26	1.24	5.3	4.2	3.5	3.0	2.6	2.1	1.8
38	9.51	1.33	1.27	5.0	4.0	3.3	2.9	2.5	2.0	1.7
39	9.26	1.40	1.31	4.7	3.8	3.2	2.7	2.4	1.9	1.6

# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

### 15-INCH I BEAM, No. 1, HEAVY, 65 LBS. PER FOOT.

Depth, 15". Width of Flanges, 5.33". Thickness of Web, 0.77".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	32.76	0.09	0.33	65.5	52.4	43.7	37.4	32.8	26.2	21.8
11	29.78	0.11	0.36	54.1	43.3	36.1	30.9	27.1	21.7	18.0
12	27.30	0.13	0.39	45.5	36.4	30.3	26.0	22.8	18.2	15.2
13	25.20	0.16	0.42	38.8	31.0	25.8	22.2	19.4	15.5	12.9
14	23.40	0.18	0.46	33.4	26.7	22.3	19.1	16.7	13.4	11.1
15	21.84	0.21	0.49	29.1	23.3	19.4	16.6	14.6	11.6	9.7
16	20.43	0.24	0.52	25.6	20.5	17.1	14.6	12.8	10.2	8.5
17	19.27	0.27	0.55	22.7	18.1	15.1	13.0	11.3	9.1	7.6
18	18.20	0.30	0.59	20.2	16.2	13.5	11.6	10.1	8.1	6.7
19	17.24	0.33	0.62	18.1	14.5	12.1	10.4	9.1	7.3	6.0
20	16.33	0.37	0.65	16.4	13.1	10.9	9.4	8.2	6.6	5.5
21	15.60	0.41	0.68	14.9	11.9	9.9	8.5	7.4	5.9	5.0
22	14.89	0.45	0.72	13.5	10.8	9.0	7.7	6.8	5.4	4.5
23	14.24	0.49	0.75	12.4	9.9	8.3	7.1	6.2	5.0	4.1
24	13.65	0.53	0.78	11.4	9.1	7.6	6.5	5.7	4.6	3.8
25	13.10	0.58	0.81	10.5	8.4	7.0	6.0	5.2	4.2	3.5
26	12.60	0.62	0.85	9.7	7.8	6.5	5.5	4.8	3.9	3.2
27	12.13	0.67	0.88	9.0	7.2	6.0	5.1	4.5	3.6	3.0
28	11.70	0.72	0.91	8.4	6.7	5.6	4.8	4.2	3.3	2.8
29	11.30	0.78	0.94	7.8	6.2	5.2	4.4	3.9	3.1	2.6
30	10.92	0.83	0.98	7.3	5.8	4.9	4.2	3.6	2.9	2.4
31	10.57	0.89	1.01	6.8	5.5	4.5	3.9	3.4	2.7	2.3
32	10.24	0.95	1.04	6.4	5.1	4.3	3.7	3.2	2.6	2.1
33	9.93	1.01	1.07	6.0	4.8	4.0	3.4	3.0	2.4	2.0
34	9.64	1.07	1.11	5.7	4.5	3.8	3.2	2.8	2.3	1.9
35	9.36	1.13	1.14	5.3	4.3	3.6	3.1	2.7	2.1	1.8
36	9.10	1.20	1.17	5.1	4.0	3.4	2.9	2.5	2.0	1.7
37	8.85	1.26	1.20	4.8	3.8	3.2	2.7	2.4	1.9	1.6
38	8.62	1.33	1.24	4.5	3.6	3.0	2.6	2.3	1.8	1.5
39	8.40	1.40	1.27	4.3	3.4	2.9	2.5	2.2	1.7	1.4

# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

### 15-INCH I BEAM, No. 1, LIGHT, 50 LBS. PER FOOT.

Depth, 15". Width of Flanges, 5.03". Thickness of Web, 0.47".  
Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	28.24	0.09	0.25	56.5	45.2	37.7	32.3	28.2	22.6	18.8
11	25.67	0.11	0.28	46.7	37.4	31.1	26.7	23.3	18.7	15.6
12	23.53	0.13	0.30	39.2	31.4	26.1	22.4	19.6	15.7	13.1
13	21.72	0.16	0.33	33.4	26.7	22.3	19.1	16.7	13.4	11.1
14	20.17	0.18	0.35	28.8	23.0	19.2	16.5	14.4	11.5	9.6
15	18.83	0.21	0.38	25.1	20.1	16.7	14.3	12.6	10.0	8.4
16	17.65	0.24	0.40	22.1	17.7	14.7	12.6	11.0	8.8	7.4
17	16.61	0.27	0.43	19.5	15.6	13.0	11.1	9.8	7.8	6.5
18	15.69	0.30	0.45	17.4	13.9	11.6	9.9	8.7	7.0	5.8
19	14.86	0.33	0.48	15.6	12.5	10.4	8.9	7.8	6.2	5.2
20	14.12	0.37	0.50	14.1	11.3	9.4	8.1	7.1	5.6	4.7
21	13.45	0.41	0.53	12.8	10.2	8.5	7.3	6.4	5.1	4.3
22	12.84	0.45	0.55	11.7	9.3	7.8	6.7	5.8	4.7	3.9
23	12.28	0.49	0.58	10.7	8.6	7.1	6.1	5.3	4.3	3.6
24	11.77	0.53	0.60	9.8	7.8	6.5	5.6	4.9	3.9	3.3
25	11.30	0.58	0.63	9.0	7.2	6.0	5.1	4.5	3.6	3.0
26	10.86	0.62	0.65	8.4	6.7	5.6	4.8	4.2	3.4	2.8
27	10.46	0.67	0.68	7.7	6.2	5.1	4.4	3.9	3.1	2.6
28	10.09	0.72	0.70	7.2	5.8	4.8	4.1	3.6	2.9	2.4
29	9.74	0.78	0.73	6.7	5.4	4.5	3.8	3.4	2.7	2.2
30	9.41	0.83	0.75	6.3	5.0	4.2	3.6	3.1	2.5	2.1
31	9.11	0.89	0.78	5.9	4.7	3.9	3.4	2.9	2.4	2.0
32	8.83	0.94	0.80	5.5	4.4	3.7	3.2	2.8	2.2	1.8
33	8.56	1.00	0.83	5.2	4.2	3.5	3.0	2.6	2.1	1.7
34	8.31	1.07	0.85	4.9	3.9	3.3	2.8	2.4	2.0	1.6
35	8.07	1.13	0.88	4.6	3.7	3.1	2.6	2.3	1.8	1.5
36	7.84	1.19	0.90	4.4	3.5	2.9	2.5	2.2	1.7	1.5
37	7.63	1.26	0.93	4.1	3.3	2.7	2.4	2.1	1.6	1.4
38	7.43	1.33	0.95	3.9	3.1	2.6	2.2	2.0	1.6	1.3
39	7.24	1.40	0.98	3.7	3.0	2.5	2.1	1.9	1.5	1.2

# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

### 12-INCH I BEAM, No. 3, HEAVY, 60 LBS. PER FOOT.

Depth, 12". Width of Flanges, 5.09". Thickness of Web, 0.96".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	22.68	0.12	0.30	45.4	36.3	30.2	25.9	22.7	18.1	15.1
11	20.62	0.14	0.33	37.5	30.0	25.0	21.4	18.7	15.0	12.5
12	18.90	0.17	0.36	31.5	25.2	21.0	18.0	15.8	12.6	10.5
13	17.45	0.20	0.39	26.8	21.5	17.9	15.3	13.4	10.7	8.9
14	16.20	0.23	0.42	23.1	18.5	15.4	13.2	11.6	9.3	7.7
15	15.12	0.26	0.45	20.2	16.1	13.4	11.5	10.1	8.1	6.7
16	14.18	0.30	0.48	17.7	14.2	11.8	10.1	8.9	7.1	5.9
17	13.34	0.33	0.51	15.7	12.6	10.5	9.0	7.8	6.3	5.2
18	12.60	0.37	0.54	14.0	11.2	9.3	8.0	7.0	5.6	4.7
19	11.94	0.42	0.57	12.6	10.1	8.4	7.2	6.3	5.0	4.2
20	11.34	0.46	0.60	11.3	9.1	7.6	6.5	5.7	4.5	3.8
21	10.80	0.51	0.63	10.3	8.2	6.9	5.9	5.2	4.1	3.4
22	10.31	0.56	0.66	9.4	7.5	6.2	5.4	4.7	3.7	3.1
23	9.86	0.61	0.69	8.6	6.9	5.7	4.9	4.3	3.4	2.9
24	9.45	0.66	0.72	7.9	6.3	5.3	4.5	3.9	3.1	2.6
25	9.07	0.72	0.75	7.3	5.8	4.9	4.2	3.6	2.9	2.4
26	8.72	0.78	0.78	6.7	5.4	4.5	3.9	3.3	2.7	2.2
27	8.40	0.84	0.81	6.2	5.0	4.2	3.6	3.1	2.5	2.1
28	8.10	0.90	0.84	5.8	4.6	3.9	3.3	2.9	2.3	1.9
29	7.82	0.97	0.87	5.4	4.3	3.6	3.1	2.7	2.1	1.8
30	7.56	1.04	0.90	5.0	4.0	3.4	2.9	2.5	2.0	1.7
31	7.32	1.11	0.93	4.7	3.8	3.2	2.7	2.4	1.9	1.6
32	7.09	1.18	0.96	4.4	3.5	3.0	2.5	2.2	1.8	1.5
33	6.87	1.26	0.99	4.2	3.3	2.8	2.4	2.1	1.7	1.4
34	6.67	1.34	1.02	3.9	3.1	2.6	2.2	2.0	1.6	1.3
35	6.48	1.42	1.05	3.7	3.0	2.5	2.1	1.9	1.5	1.2
36	6.30	1.50	1.08	3.5	2.8	2.3	2.0	1.8	1.4	1.2
37	6.13	1.58	1.11	3.3	2.6	2.2	1.9	1.7	1.3	1.1
38	5.97	1.67	1.14	3.1	2.5	2.1	1.8	1.6	1.3	1.0
39	5.82	1.76	1.17	3.0	2.4	2.0	1.7	1.5	1.2	1.0

# DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

## 12-INCH I BEAM, No. 3, LIGHT, 42 LBS. PER FOOT.

Depth, 12". Width of Flanges, 4.64". Thickness of Web, 0.51"

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	18.36	0.12	0.21	36.7	29.4	24.5	21.0	18.4	14.7	12.2
11	16.69	0.14	0.23	30.3	24.3	20.2	17.3	15.2	12.1	10.1
12	15.30	0.17	0.25	25.5	20.4	17.0	14.6	12.8	10.2	8.5
13	14.12	0.20	0.27	21.7	17.4	14.5	12.4	10.9	8.7	7.2
14	13.11	0.23	0.29	18.7	15.0	12.5	10.7	9.4	7.5	6.2
15	12.24	0.26	0.32	16.3	13.1	10.9	9.3	8.2	6.5	5.4
16	11.48	0.30	0.34	14.4	11.5	9.6	8.2	7.2	5.7	4.8
17	10.80	0.33	0.36	12.7	10.2	8.5	7.3	6.4	5.1	4.2
18	10.20	0.37	0.38	11.3	9.1	7.6	6.5	5.7	4.5	3.8
19	9.66	0.42	0.40	10.2	8.1	6.8	5.8	5.1	4.1	3.4
20	9.18	0.46	0.42	9.2	7.3	6.1	5.2	4.6	3.7	3.1
21	8.74	0.51	0.44	8.3	6.7	5.5	4.8	4.2	3.3	2.8
22	8.35	0.56	0.46	7.6	6.1	5.0	4.3	3.8	3.0	2.5
23	7.98	0.61	0.48	6.9	5.6	4.6	4.0	3.5	2.8	2.3
24	7.65	0.66	0.50	6.4	5.1	4.2	3.6	3.2	2.6	2.1
25	7.34	0.72	0.53	5.9	4.7	3.9	3.3	2.9	2.4	2.0
26	7.06	0.78	0.55	5.4	4.3	3.6	3.1	2.7	2.2	1.8
27	6.80	0.84	0.57	5.0	4.0	3.3	2.9	2.5	2.0	1.7
28	6.56	0.90	0.59	4.7	3.7	3.1	2.7	2.3	1.9	1.6
29	6.33	0.97	0.61	4.4	3.5	2.9	2.5	2.2	1.7	1.5
30	6.12	1.04	0.63	4.1	3.3	2.7	2.3	2.0	1.6	1.4
31	5.92	1.11	0.65	3.8	3.1	2.5	2.2	1.9	1.5	1.3
32	5.74	1.18	0.67	3.6	2.9	2.3	2.0	1.8	1.4	1.2
33	5.56	1.26	0.69	3.4	2.7	2.2	1.9	1.7	1.3	1.1
34	5.40	1.34	0.71	3.2	2.5	2.1	1.8	1.6	1.3	1.1
35	5.25	1.42	0.74	3.0	2.4	2.0	1.7	1.5	1.2	1.0
36	5.10	1.50	0.76	2.8	2.2	1.9	1.6	1.4	1.1	0.9
37	4.96	1.58	0.78	2.6	2.1	1.8	1.5	1.3	1.1	0.9
38	4.83	1.67	0.80	2.5	2.0	1.7	1.5	1.3	1.0	0.8
39	4.71	1.76	0.82	2.4	1.9	1.6	1.4	1.2	1.0	0.8

# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

### 10½-INCH I BEAM, No. 4, HEAVY, 45 LBS. PER FOOT.

Depth, 10½". Width of Flanges, 4.92". Thickness of Web, 0.79".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	15.32	0.13	0.23	30.6	24.5	20.4	17.5	15.3	12.3	10.2
11	13.93	0.16	0.25	25.3	20.3	16.9	14.5	12.7	10.1	8.4
12	12.77	0.19	0.27	21.3	17.0	14.2	12.2	10.6	8.5	7.1
13	11.78	0.22	0.29	18.1	14.5	12.1	10.4	9.1	7.2	6.0
14	10.94	0.26	0.32	15.6	12.5	10.4	8.9	7.8	6.3	5.2
15	10.21	0.30	0.34	13.6	10.9	9.1	7.8	6.8	5.4	4.5
16	9.58	0.34	0.36	12.0	9.6	8.0	6.8	6.0	4.8	4.0
17	9.01	0.38	0.38	10.6	8.5	7.1	6.1	5.3	4.2	3.5
18	8.51	0.43	0.41	9.5	7.6	6.3	5.4	4.7	3.8	3.1
19	8.06	0.48	0.43	8.5	6.8	5.7	4.8	4.2	3.4	2.8
20	7.66	0.53	0.45	7.7	6.1	5.1	4.4	3.8	3.1	2.5
21	7.30	0.58	0.47	7.0	5.6	4.6	4.0	3.5	2.8	2.3
22	6.96	0.64	0.50	6.3	5.1	4.2	3.6	3.2	2.5	2.1
23	6.66	0.70	0.52	5.8	4.6	3.9	3.3	2.9	2.3	1.9
24	6.38	0.76	0.54	5.3	4.2	3.6	3.0	2.7	2.1	1.8
25	6.13	0.82	0.56	4.9	3.9	3.3	2.8	2.5	1.9	1.6
26	5.89	0.89	0.59	4.5	3.6	3.0	2.6	2.3	1.8	1.5
27	5.67	0.96	0.61	4.2	3.4	2.8	2.4	2.1	1.7	1.4
28	5.47	1.03	0.63	3.9	3.1	2.6	2.2	2.0	1.6	1.3
29	5.28	1.11	0.65	3.6	2.9	2.4	2.1	1.8	1.5	1.2
30	5.11	1.19	0.68	3.4	2.7	2.3	1.9	1.7	1.4	1.1
31	4.94	1.27	0.70	3.2	2.6	2.1	1.8	1.6	1.3	1.1
32	4.79	1.35	0.72	3.0	2.4	2.0	1.7	1.5	1.2	1.0
33	4.64	1.44	0.74	2.8	2.2	1.9	1.6	1.4	1.1	.9
34	4.51	1.53	0.77	2.7	2.1	1.8	1.5	1.3	1.1	.9
35	4.38	1.62	0.79	2.5	2.0	1.7	1.4	1.3	1.0	.8
36	4.26	1.71	0.81	2.4	1.9	1.6	1.4	1.2	.9	.8
37	4.14	1.80	0.83	2.2	1.8	1.5	1.3	1.1	.9	.7
38	4.03	1.90	0.86	2.1	1.7	1.4	1.2	1.1	.8	.7
39	3.93	2.01	0.88	2.0	1.6	1.3	1.2	1.0	.8	.7

# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

### 10½-INCH I BEAM, No. 4, LIGHT, 31½ LBS. PER FOOT.

Depth, 10½". Width of Flanges, 4.54". Thickness of Web, 0.41".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	12.56	0.13	0.16	25.1	20.1	16.7	14.4	12.6	10.0	8.4
11	11.42	0.16	0.17	20.8	16.6	13.8	11.9	10.4	8.3	6.9
12	10.47	0.19	0.19	17.5	14.0	11.6	10.0	8.7	7.0	5.8
13	9.66	0.22	0.21	14.9	11.9	9.9	8.5	7.4	5.9	5.0
14	8.97	0.26	0.22	12.8	10.2	8.5	7.3	6.4	5.1	4.3
15	8.37	0.30	0.24	11.2	8.9	7.4	6.4	5.6	4.5	3.7
16	7.85	0.34	0.25	9.8	7.8	6.5	5.6	4.9	3.9	3.3
17	7.39	0.38	0.27	8.7	7.0	5.8	5.0	4.3	3.5	2.9
18	6.98	0.43	0.28	7.8	6.2	5.2	4.4	3.9	3.1	2.6
19	6.61	0.48	0.30	7.0	5.6	4.6	4.0	3.5	2.8	2.3
20	6.28	0.53	0.32	6.3	5.0	4.2	3.6	3.1	2.5	2.1
21	5.98	0.58	0.33	5.7	4.6	3.8	3.3	2.8	2.3	1.9
22	5.71	0.64	0.35	5.2	4.2	3.5	3.0	2.6	2.1	1.7
23	5.46	0.70	0.36	4.8	3.8	3.2	2.7	2.4	1.9	1.6
24	5.23	0.76	0.38	4.4	3.5	2.9	2.5	2.2	1.7	1.5
25	5.02	0.82	0.39	4.0	3.2	2.7	2.3	2.0	1.6	1.3
26	4.83	0.89	0.41	3.7	3.0	2.5	2.1	1.9	1.5	1.2
27	4.65	0.96	0.43	3.4	2.8	2.3	2.0	1.7	1.4	1.1
28	4.49	1.03	0.44	3.2	2.6	2.1	1.8	1.6	1.3	1.1
29	4.33	1.11	0.46	3.0	2.4	2.0	1.7	1.5	1.2	1.0
30	4.19	1.19	0.47	2.8	2.2	1.9	1.6	1.4	1.1	.9
31	4.05	1.27	0.49	2.6	2.1	1.7	1.5	1.3	1.0	.9
32	3.93	1.35	0.50	2.5	2.0	1.6	1.4	1.2	1.0	.8
33	3.81	1.44	0.52	2.3	1.8	1.5	1.3	1.2	.9	.8
34	3.69	1.53	0.54	2.2	1.7	1.4	1.2	1.1	.9	.7
35	3.59	1.62	0.55	2.1	1.6	1.4	1.2	1.0	.8	.7
36	3.49	1.71	0.57	1.9	1.6	1.3	1.1	1.0	.8	.6
37	3.39	1.80	0.58	1.8	1.5	1.2	1.1	.9	.7	.6
38	3.31	1.90	0.60	1.7	1.4	1.2	1.0	.9	.7	.6
39	3.22	2.01	0.61	1.7	1.3	1.1	.9	.8	.7	.6

# DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

## 10-INCH I BEAM, No. 5, HEAVY, 45 LBS. PER FOOT.

Depth, 10". Width of Flanges, 4.77". Thickness of Web, 0.77".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	15.00	0.14	0.23	30.0	24.0	20.0	17.1	15.0	12.0	10.0
11	13.64	0.17	0.25	24.8	19.8	16.5	14.2	12.4	9.9	8.3
12	12.50	0.20	0.27	20.8	16.7	13.9	11.6	10.4	8.3	6.9
13	11.54	0.23	0.29	17.8	14.2	11.8	10.1	8.9	7.1	5.9
14	10.71	0.27	0.32	15.3	12.2	10.2	8.7	7.7	6.1	5.1
15	10.00	0.31	0.34	13.3	10.7	8.9	7.6	6.7	5.3	4.4
16	9.38	0.35	0.36	11.7	9.4	7.8	6.7	5.9	4.7	3.9
17	8.82	0.40	0.38	10.4	8.3	6.9	5.9	5.2	4.2	3.5
18	8.33	0.45	0.41	9.3	7.4	6.2	5.3	4.6	3.7	3.1
19	7.89	0.50	0.43	8.3	6.6	5.5	4.7	4.2	3.3	2.8
20	7.50	0.55	0.45	7.5	6.0	5.0	4.3	3.8	3.0	2.5
21	7.14	0.61	0.47	6.8	5.4	4.5	3.9	3.4	2.7	2.3
22	6.82	0.67	0.50	6.2	5.0	4.1	3.5	3.1	2.5	2.1
23	6.52	0.73	0.52	5.7	4.5	3.8	3.2	2.8	2.3	1.9
24	6.25	0.80	0.54	5.2	4.1	3.5	2.9	2.6	2.1	1.7
25	6.00	0.87	0.56	4.8	3.8	3.2	2.7	2.4	1.9	1.6
26	5.77	0.94	0.59	4.4	3.6	3.0	2.5	2.2	1.8	1.5
27	5.56	1.01	0.61	4.1	3.3	2.8	2.4	2.1	1.6	1.4
28	5.36	1.09	0.63	3.8	3.1	2.6	2.2	1.9	1.5	1.3
29	5.17	1.17	0.65	3.6	2.9	2.4	2.0	1.8	1.4	1.2
30	5.00	1.25	0.68	3.3	2.7	2.2	1.9	1.7	1.3	1.1
31	4.84	1.33	0.70	3.1	2.5	2.1	1.8	1.6	1.2	1.0
32	4.69	1.42	0.72	2.9	2.3	1.9	1.7	1.5	1.2	1.0
33	4.55	1.51	0.74	2.8	2.2	1.8	1.6	1.4	1.1	.9
34	4.41	1.60	0.77	2.6	2.1	1.7	1.5	1.3	1.0	.9
35	4.29	1.70	0.79	2.4	2.0	1.6	1.4	1.2	1.0	.8
36	4.17	1.80	0.81	2.3	1.9	1.5	1.3	1.2	.9	.8
37	4.05	1.90	0.83	2.2	1.8	1.5	1.3	1.1	.9	.7
38	3.95	2.01	0.86	2.1	1.7	1.4	1.2	1.0	.8	.7
39	3.85	2.11	0.88	2.0	1.6	1.3	1.1	1.0	.8	.7

# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

### 10-INCH I BEAM, No. 5, LIGHT, 30 LBS. PER FOOT.

Depth, 10". Width of Flanges, 4.32". Thickness of Web, 0.32".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	12.00	0.14	0.15	24.0	19.2	16.0	13.7	12.0	9.6	8.0
11	10.91	0.17	0.17	19.8	15.9	13.2	11.3	9.9	7.9	6.6
12	10.00	0.20	0.18	16.7	13.3	11.1	9.5	8.3	6.7	5.6
13	9.23	0.23	0.20	14.2	11.4	9.5	8.1	7.1	5.7	4.7
14	8.57	0.27	0.21	12.2	9.8	8.2	7.0	6.1	4.9	4.1
15	8.00	0.31	0.23	10.7	8.5	7.1	6.1	5.3	4.3	3.6
16	7.50	0.35	0.24	9.4	7.5	6.3	5.4	4.7	3.8	3.1
17	7.06	0.40	0.26	8.3	6.6	5.5	4.7	4.2	3.3	2.8
18	6.67	0.45	0.27	7.4	5.9	4.9	4.2	3.7	3.0	2.5
19	6.32	0.50	0.29	6.7	5.3	4.4	3.8	3.3	2.7	2.2
20	6.00	0.55	0.30	6.0	4.8	4.0	3.4	3.0	2.4	2.0
21	5.71	0.61	0.32	5.4	4.4	3.6	3.1	2.7	2.2	1.8
22	5.45	0.67	0.33	5.0	4.0	3.3	2.8	2.5	2.0	1.7
23	5.22	0.73	0.35	4.5	3.6	3.0	2.6	2.3	1.8	1.5
24	5.00	0.80	0.36	4.2	3.3	2.8	2.4	2.1	1.7	1.4
25	4.80	0.87	0.38	3.8	3.1	2.6	2.2	1.9	1.5	1.3
26	4.62	0.94	0.39	3.6	2.8	2.4	2.0	1.8	1.4	1.2
27	4.44	1.01	0.41	3.3	2.6	2.2	1.9	1.6	1.3	1.1
28	4.29	1.09	0.42	3.1	2.4	2.0	1.7	1.5	1.2	1.0
29	4.14	1.17	0.44	2.9	2.3	1.9	1.6	1.4	1.1	.9
30	4.00	1.25	0.45	2.7	2.1	1.8	1.5	1.3	1.1	.9
31	3.87	1.33	0.47	2.5	2.0	1.7	1.4	1.2	1.0	.8
32	3.75	1.42	0.48	2.3	1.9	1.6	1.3	1.2	.9	.8
33	3.64	1.51	0.50	2.2	1.8	1.5	1.3	1.1	.9	.7
34	3.53	1.60	0.51	2.1	1.7	1.4	1.2	1.0	.8	.7
35	3.43	1.70	0.53	2.0	1.6	1.3	1.1	1.0	.8	.7
36	3.33	1.80	0.54	1.9	1.5	1.2	1.1	.9	.7	.6
37	3.24	1.90	0.56	1.8	1.4	1.2	1.0	.9	.7	.6
38	3.16	2.01	0.57	1.7	1.3	1.1	.9	.8	.7	.6
39	3.08	2.11	0.59	1.6	1.3	1.1	.9	.8	.6	.5

# DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

## 9-INCH I BEAM, No. 6, HEAVY, 33 LBS. PER FOOT.

Depth, 9". Width of Flanges, 4.33". Thickness of Web, 0.58".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	10.40	0.15	0.17	20.8	16.6	13.9	11.9	10.4	8.3	6.9
11	9.45	0.19	0.18	17.2	13.8	11.5	9.8	8.6	6.9	5.7
12	8.67	0.22	0.20	14.5	11.6	9.6	8.3	7.2	5.8	4.8
13	8.00	0.26	0.22	12.3	9.8	8.2	7.0	6.2	4.9	4.1
14	7.43	0.30	0.23	10.6	8.5	7.1	6.1	5.3	4.2	3.5
15	6.93	0.35	0.25	9.2	7.4	6.2	5.3	4.6	3.7	3.1
16	6.50	0.40	0.26	8.1	6.5	5.4	4.6	4.1	3.3	2.7
17	6.12	0.45	0.28	7.2	5.8	4.8	4.1	3.6	2.9	2.4
18	5.78	0.50	0.30	6.4	5.1	4.3	3.7	3.2	2.6	2.1
19	5.47	0.56	0.31	5.8	4.6	3.8	3.3	2.9	2.3	1.9
20	5.20	0.62	0.33	5.2	4.2	3.5	3.0	2.6	2.1	1.7
21	4.95	0.68	0.35	4.7	3.8	3.1	2.7	2.4	1.9	1.6
22	4.73	0.75	0.36	4.3	3.4	2.9	2.5	2.2	1.7	1.4
23	4.52	0.82	0.38	3.9	3.1	2.6	2.3	2.0	1.6	1.3
24	4.33	0.89	0.40	3.6	2.9	2.4	2.1	1.8	1.4	1.2
25	4.16	0.96	0.41	3.3	2.7	2.2	1.9	1.7	1.3	1.1
26	4.00	1.04	0.43	3.1	2.5	2.1	1.8	1.5	1.2	1.0
27	3.85	1.12	0.45	2.9	2.3	1.9	1.6	1.4	1.1	.9
28	3.71	1.20	0.46	2.7	2.1	1.8	1.5	1.3	1.1	.9
29	3.59	1.29	0.48	2.5	2.0	1.6	1.4	1.2	1.0	.8
30	3.47	1.39	0.50	2.3	1.8	1.5	1.3	1.2	.9	.8
31	3.35	1.48	0.51	2.2	1.7	1.4	1.2	1.1	.9	.7
32	3.25	1.58	0.53	2.0	1.6	1.4	1.1	1.0	.8	.7
33	3.15	1.68	0.55	1.9	1.5	1.3	1.1	1.0	.8	.6
34	3.06	1.78	0.56	1.8	1.4	1.2	1.0	.9	.7	.6
35	2.97	1.89	0.58	1.7	1.4	1.1	1.0	.9	.7	.6
36	2.89	2.00	0.59	1.6	1.3	1.1	.9	.8	.6	.5
37	2.81	2.11	0.61	1.5	1.2	1.0	.9	.8	.6	.5
38	2.74	2.22	0.63	1.4	1.2	1.0	.8	.7	.6	.5
39	2.67	2.34	0.64	1.4	1.1	.9	.8	.7	.5	.5

# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

### 9-INCH I BEAM, No. 6, LIGHT, 23½ LBS. PER FOOT.

Depth, 9". Width of Flanges, 4.01". Thickness of Web, 0.26".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
10	8.68	0.15	0.12	17.4	13.9	11.6	9.9	8.7	6.9	5.8
11	7.89	0.19	0.13	14.4	11.5	9.6	8.2	7.2	5.7	4.8
12	7.23	0.22	0.14	12.1	9.6	8.0	6.9	6.0	4.8	4.0
13	6.68	0.26	0.15	10.3	8.2	6.9	5.9	5.1	4.1	3.4
14	6.20	0.30	0.16	8.9	7.1	5.9	5.1	4.4	3.5	2.9
15	5.79	0.35	0.18	7.7	6.2	5.1	4.4	3.9	3.1	2.6
16	5.43	0.40	0.19	6.8	5.4	4.5	3.9	3.4	2.7	2.3
17	5.11	0.45	0.20	6.0	4.8	4.0	3.4	3.0	2.4	2.0
18	4.82	0.50	0.21	5.4	4.3	3.6	3.0	2.7	2.1	1.8
19	4.57	0.56	0.22	4.8	3.8	3.2	2.7	2.4	1.9	1.6
20	4.34	0.62	0.24	4.3	3.5	2.9	2.5	2.2	1.7	1.4
21	4.13	0.68	0.25	3.9	3.2	2.6	2.2	2.0	1.6	1.3
22	3.95	0.75	0.26	3.6	2.9	2.4	2.0	1.8	1.4	1.2
23	3.77	0.82	0.27	3.3	2.6	2.2	1.9	1.6	1.3	1.1
24	3.62	0.89	0.28	3.0	2.4	2.0	1.7	1.5	1.2	1.0
25	3.47	0.96	0.29	2.8	2.2	1.9	1.6	1.4	1.1	.9
26	3.34	1.04	0.31	2.6	2.0	1.7	1.5	1.3	1.0	.9
27	3.21	1.12	0.32	2.4	1.9	1.6	1.4	1.2	1.0	.8
28	3.10	1.20	0.33	2.2	1.8	1.5	1.3	1.1	.9	.7
29	2.99	1.29	0.34	2.1	1.6	1.4	1.2	1.0	.8	.7
30	2.89	1.39	0.35	1.9	1.5	1.3	1.1	1.0	.8	.6
31	2.80	1.48	0.36	1.8	1.4	1.2	1.0	.9	.7	.6
32	2.71	1.58	0.38	1.7	1.4	1.1	1.0	.9	.7	.6
33	2.63	1.68	0.39	1.6	1.3	1.1	.9	.8	.6	.5
34	2.55	1.78	0.40	1.5	1.2	1.0	.9	.8	.6	.5
35	2.48	1.89	0.41	1.4	1.1	.9	.8	.7	.6	.5
36	2.41	2.00	0.42	1.3	1.1	.9	.8	.7	.5	.4
37	2.35	2.11	0.43	1.3	1.0	.8	.7	.6	.5	.4
38	2.28	2.22	0.45	1.2	1.0	.8	.7	.6	.5	.4
39	2.23	2.34	0.46	1.2	.9	.8	.7	.6	.5	.4

# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

### 8-INCH I BEAM, No. 8, HEAVY, 35 LBS. PER FOOT.

Depth, 8". Width of Flanges, 4.29". Thickness of Web, 0.79".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	18.08	0.04	0.09	72.3	57.9	48.2	41.3	36.2	28.9	24.1
6	15.07	0.06	0.11	50.2	40.2	33.5	28.7	25.1	20.1	16.7
7	12.91	0.08	0.12	36.9	29.5	24.6	21.1	18.4	14.8	12.3
8	11.30	0.11	0.14	28.3	22.6	18.8	16.1	14.1	11.3	9.4
9	10.04	0.14	0.16	22.3	17.8	14.9	12.7	11.2	8.9	7.4
10	9.04	0.17	0.18	18.1	14.5	12.1	10.3	9.0	7.2	6.0
11	8.22	0.21	0.19	14.9	12.0	10.0	8.5	7.5	6.0	5.0
12	7.53	0.25	0.21	12.6	10.0	8.4	7.2	6.3	5.0	4.2
13	6.95	0.29	0.23	10.7	8.6	7.1	6.1	5.3	4.3	3.6
14	6.46	0.34	0.25	9.2	7.4	6.2	5.3	4.6	3.7	3.1
15	6.03	0.39	0.26	8.0	6.4	5.4	4.6	4.0	3.2	2.7
16	5.65	0.44	0.28	7.1	5.6	4.7	4.0	3.5	2.8	2.4
17	5.32	0.50	0.30	6.3	5.0	4.2	3.6	3.1	2.5	2.1
18	5.02	0.56	0.32	5.6	4.5	3.7	3.2	2.8	2.2	1.9
19	4.76	0.62	0.33	5.0	4.0	3.3	2.9	2.5	2.0	1.7
20	4.52	0.69	0.35	4.5	3.6	3.0	2.6	2.3	1.8	1.5
21	4.30	0.76	0.37	4.1	3.3	2.7	2.3	2.0	1.6	1.4
22	4.11	0.84	0.39	3.7	3.0	2.5	2.1	1.9	1.5	1.2
23	3.93	0.92	0.40	3.4	2.7	2.3	2.0	1.7	1.4	1.1
24	3.77	1.00	0.42	3.1	2.5	2.1	1.8	1.6	1.3	1.0
25	3.62	1.08	0.44	2.9	2.3	1.9	1.7	1.4	1.2	1.0
26	3.48	1.17	0.45	2.7	2.1	1.8	1.5	1.3	1.1	.9
27	3.35	1.26	0.47	2.5	2.0	1.6	1.4	1.2	1.0	.8
28	3.23	1.36	0.49	2.3	1.8	1.5	1.3	1.2	.9	.8
29	3.12	1.46	0.51	2.2	1.7	1.4	1.2	1.1	.9	.7
30	3.01	1.56	0.53	2.0	1.6	1.3	1.1	1.0	.8	.7
31	2.92	1.67	0.54	1.9	1.5	1.2	1.1	.9	.8	.6
32	2.83	1.78	0.56	1.8	1.4	1.2	1.0	.9	.7	.6
33	2.74	1.89	0.58	1.7	1.3	1.1	.9	.8	.7	.6
34	2.66	2.00	0.60	1.6	1.2	1.0	.9	.8	.6	.5

# DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

## 8-INCH I BEAM, No. 8, LIGHT, 22 LBS. PER FOOT.

Depth, 8". Width of Flanges, 3.81". Thickness of Web, 0.31".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	14.00	0.04	0.06	56.0	44.8	37.3	32.0	28.0	22.4	18.7
6	11.67	0.06	0.07	38.9	31.1	25.9	22.2	19.5	15.6	13.0
7	10.00	0.08	0.08	28.6	22.9	19.0	16.3	14.3	11.4	9.5
8	8.75	0.11	0.09	21.9	17.5	14.6	12.5	10.9	8.8	7.3
9	7.78	0.14	0.10	17.3	13.8	11.5	9.9	8.6	6.9	5.8
10	7.00	0.17	0.11	14.0	11.2	9.3	8.0	7.0	5.6	4.7
11	6.36	0.21	0.12	11.6	9.2	7.7	6.6	5.8	4.6	3.9
12	5.83	0.25	0.13	9.7	7.8	6.5	5.6	4.9	3.9	3.2
13	5.38	0.29	0.14	8.3	6.6	5.5	4.7	4.1	3.3	2.8
14	5.00	0.34	0.15	7.1	5.7	4.8	4.1	3.6	2.9	2.4
15	4.67	0.39	0.17	6.2	5.0	4.2	3.6	3.1	2.5	2.1
16	4.38	0.44	0.18	5.5	4.4	3.7	3.1	2.7	2.2	1.8
17	4.12	0.50	0.19	4.9	3.9	3.2	2.8	2.4	1.9	1.6
18	3.89	0.56	0.20	4.3	3.5	2.9	2.5	2.2	1.7	1.4
19	3.68	0.62	0.21	3.9	3.1	2.6	2.2	1.9	1.5	1.3
20	3.50	0.69	0.22	3.5	2.8	2.3	2.0	1.8	1.4	1.2
21	3.33	0.76	0.23	3.2	2.5	2.1	1.8	1.6	1.3	1.1
22	3.18	0.84	0.24	2.9	2.3	1.9	1.7	1.4	1.2	1.0
23	3.04	0.92	0.25	2.6	2.1	1.8	1.5	1.3	1.1	.9
24	2.92	1.00	0.26	2.4	1.9	1.6	1.4	1.2	1.0	.8
25	2.80	1.08	0.28	2.2	1.8	1.5	1.3	1.1	.9	.7
26	2.69	1.17	0.29	2.1	1.7	1.4	1.2	1.0	.8	.7
27	2.59	1.26	0.30	1.9	1.5	1.3	1.1	1.0	.8	.6
28	2.50	1.36	0.31	1.8	1.4	1.2	1.0	.9	.7	.6
29	2.41	1.46	0.32	1.7	1.3	1.1	.9	.8	.7	.6
30	2.33	1.56	0.33	1.6	1.2	1.0	.9	.8	.6	.5
31	2.26	1.67	0.34	1.5	1.2	1.0	.8	.7	.6	.5
32	2.19	1.78	0.35	1.4	1.1	.9	.8	.7	.5	.5
33	2.12	1.89	0.36	1.3	1.0	.9	.7	.6	.5	.4
34	2.06	2.00	0.37	1.2	1.0	.8	.7	.6	.5	.4

# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

### 7-INCH I BEAM, No. 8, HEAVY, 25 LBS. PER FOOT.

Depth, 7". Width of Flanges, 3.91". Thickness of Web, 0.53"

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	12.40	0.05	0.06	49.6	39.7	33.1	28.3	24.8	19.8	16.5
6	10.33	0.07	0.08	34.4	27.5	23.0	19.7	17.2	13.8	11.5
7	8.86	0.10	0.09	25.3	20.2	16.9	14.5	12.7	10.1	8.4
8	7.75	0.13	0.10	19.4	15.5	12.9	11.1	9.7	7.8	6.5
9	6.89	0.16	0.11	15.3	12.2	10.2	8.7	7.7	6.1	5.1
10	6.20	0.20	0.13	12.4	9.9	8.3	7.1	6.2	5.0	4.1
11	5.64	0.24	0.14	10.3	8.2	6.8	5.9	5.1	4.1	3.4
12	5.17	0.28	0.15	8.6	6.9	5.7	4.9	4.3	3.4	2.9
13	4.77	0.33	0.16	7.3	5.9	4.9	4.2	3.7	2.9	2.4
14	4.43	0.39	0.18	6.3	5.1	4.2	3.6	3.2	2.5	2.1
15	4.13	0.45	0.19	5.5	4.4	3.7	3.1	2.8	2.2	1.8
16	3.88	0.51	0.20	4.9	3.9	3.2	2.8	2.4	1.9	1.6
17	3.65	0.57	0.21	4.3	3.4	2.9	2.5	2.1	1.7	1.4
18	3.44	0.64	0.23	3.8	3.1	2.5	2.2	1.9	1.5	1.3
19	3.26	0.71	0.24	3.4	2.7	2.3	2.0	1.7	1.4	1.1
20	3.10	0.79	0.25	3.1	2.5	2.1	1.8	1.5	1.2	1.0
21	2.95	0.87	0.26	2.8	2.2	1.9	1.6	1.4	1.1	.9
22	2.82	0.96	0.28	2.6	2.0	1.7	1.5	1.3	1.0	.9
23	2.70	1.05	0.29	2.4	1.9	1.6	1.3	1.2	.9	.8
24	2.58	1.14	0.30	2.2	1.7	1.4	1.2	1.1	.9	.7
25	2.48	1.24	0.31	2.0	1.6	1.3	1.1	1.0	.8	.7
26	2.38	1.34	0.33	1.8	1.5	1.2	1.0	.9	.7	.6
27	2.30	1.44	0.34	1.7	1.4	1.1	1.0	.9	.7	.6
28	2.21	1.55	0.35	1.6	1.3	1.1	.9	.8	.6	.5
29	2.14	1.66	0.36	1.5	1.2	1.0	.8	.7	.6	.5

# DEARBORN FOUNDRY COMPANY.

Carnegie Iron Sections.

## 7-INCH I BEAM, No. 9, LIGHT, 18 LBS. PER FOOT.

Depth, 7". Width of Flanges, 3.61". Thickness of Web, 0.23".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	10.48	0.05	0.05	41.9	33.5	27.9	24.0	21.0	16.8	14.0
6	8.73	0.07	0.05	29.1	23.3	19.4	16.6	14.6	11.6	9.7
7	7.49	0.10	0.06	21.4	17.1	14.3	12.2	10.7	8.6	7.1
8	6.55	0.13	0.07	16.4	13.1	10.9	9.4	8.2	6.6	5.5
9	5.82	0.16	0.08	12.9	10.3	8.6	7.4	6.5	5.2	4.3
10	5.24	0.20	0.09	10.5	8.4	7.0	6.0	5.2	4.2	3.5
11	4.76	0.24	0.10	8.7	6.9	5.8	4.9	4.3	3.5	2.9
12	4.37	0.28	0.11	7.3	5.8	4.9	4.2	3.6	2.9	2.4
13	4.03	0.33	0.12	6.2	5.0	4.1	3.5	3.1	2.5	2.1
14	3.74	0.39	0.13	5.3	4.3	3.6	3.1	2.7	2.1	1.8
15	3.49	0.45	0.14	4.7	3.7	3.1	2.7	2.3	1.9	1.6
16	3.28	0.51	0.14	4.1	3.3	2.7	2.3	2.1	1.6	1.4
17	3.08	0.57	0.15	3.6	2.9	2.4	2.1	1.8	1.4	1.2
18	2.91	0.64	0.16	3.2	2.6	2.2	1.8	1.6	1.3	1.1
19	2.76	0.71	0.17	2.9	2.3	1.9	1.7	1.5	1.1	1.0
20	2.62	0.79	0.18	2.6	2.1	1.7	1.5	1.3	1.0	.9
21	2.50	0.87	0.19	2.4	1.9	1.6	1.4	1.2	1.0	.8
22	2.38	0.96	0.20	2.2	1.7	1.4	1.2	1.1	.9	.7
23	2.28	1.05	0.21	2.0	1.6	1.3	1.1	1.0	.8	.7
24	2.18	1.14	0.22	1.8	1.4	1.2	1.0	.9	.7	.6
25	2.10	1.24	0.23	1.7	1.3	1.1	1.0	.8	.7	.6
26	2.02	1.34	0.23	1.6	1.2	1.0	.9	.8	.6	.5
27	1.94	1.44	0.24	1.4	1.2	1.0	.8	.7	.6	.5
28	1.87	1.55	0.25	1.3	1.1	.9	.8	.7	.5	.4
29	1.81	1.66	0.26	1.2	1.0	.8	.7	.6	.5	.4

# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

### 6-INCH I BEAM, No. 10, HEAVY, 18 LBS. PER FOOT.

Depth, 6''. Width of Flanges, 3.46''. Thickness of Web, 0.46''

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	7.58	0.06	0.05	30.3	24.3	20.2	17.3	15.2	12.1	10.1
6	6.32	0.08	0.05	21.1	16.9	14.0	12.0	10.5	8.4	7.0
7	5.42	0.11	0.06	15.5	12.4	10.3	8.9	7.7	6.2	5.2
8	4.74	0.15	0.07	11.9	9.5	7.9	6.8	5.9	4.7	4.0
9	4.21	0.19	0.08	9.4	7.5	6.2	5.3	4.7	3.7	3.1
10	3.79	0.23	0.09	7.6	6.1	5.1	4.3	3.8	3.0	2.5
11	3.45	0.28	0.10	6.3	5.0	4.2	3.6	3.1	2.5	2.1
12	3.16	0.33	0.11	5.3	4.2	3.5	3.0	2.6	2.1	1.8
13	2.92	0.39	0.12	4.5	3.6	3.0	2.6	2.2	1.8	1.5
14	2.71	0.45	0.13	3.9	3.1	2.6	2.2	1.9	1.5	1.3
15	2.53	0.52	0.14	3.4	2.7	2.2	1.9	1.7	1.3	1.1
16	2.37	0.59	0.14	3.0	2.4	2.0	1.7	1.5	1.2	1.0
17	2.23	0.67	0.15	2.6	2.1	1.7	1.5	1.3	1.0	.9
18	2.11	0.75	0.16	2.3	1.9	1.6	1.3	1.2	.9	.8
19	2.00	0.83	0.17	2.1	1.7	1.4	1.2	1.1	.8	.7
20	1.90	0.92	0.18	1.9	1.5	1.3	1.1	1.0	.8	.6
21	1.81	1.01	0.19	1.7	1.4	1.1	1.0	.9	.7	.6
22	1.72	1.11	0.20	1.6	1.2	1.0	.9	.8	.6	.5
23	1.65	1.22	0.21	1.4	1.1	1.0	.8	.7	.6	.5
24	1.58	1.33	0.22	1.3	1.1	.9	.8	.7	.5	.4
25	1.52	1.45	0.23	1.2	1.0	.8	.7	.6	.5	.4
26	1.46	1.56	0.23	1.1	.9	.7	.6	.6	.4	.4
27	1.40	1.68	0.24	1.0	.8	.7	.6	.5	.4	.3
28	1.35	1.81	0.25	1.0	.8	.6	.5	.5	.4	.3
29	1.31	1.95	0.26	.9	.7	.6	.5	.5	.4	.3

# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

### 6-INCH I BEAM, No. 10, LIGHT, 13½ LBS. PER FOOT.

Depth, 6". Width of Flanges, 3.24". Thickness of Web, 0.24".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	6.53	0.06	0.03	26.1	20.9	17.4	14.9	13.1	10.4	8.7
6	5.44	0.08	0.04	18.1	14.5	12.1	10.4	9.1	7.3	6.0
7	4.66	0.11	0.05	13.3	10.6	8.9	7.6	6.7	5.3	4.4
8	4.08	0.15	0.05	10.2	8.2	6.8	5.8	5.1	4.1	3.4
9	3.63	0.19	0.06	8.1	6.5	5.4	4.6	4.0	3.2	2.7
10	3.26	0.23	0.07	6.5	5.2	4.4	3.7	3.3	2.6	2.2
11	2.97	0.28	0.07	5.4	4.3	3.6	3.1	2.7	2.2	1.8
12	2.72	0.33	0.08	4.5	3.6	3.0	2.6	2.3	1.8	1.5
13	2.51	0.39	0.09	3.9	3.1	2.6	2.2	1.9	1.5	1.3
14	2.33	0.45	0.09	3.3	2.7	2.2	1.9	1.7	1.3	1.1
15	2.18	0.52	0.10	2.9	2.3	1.9	1.7	1.5	1.2	1.0
16	2.04	0.59	0.11	2.6	2.0	1.7	1.5	1.3	1.0	.9
17	1.92	0.67	0.11	2.3	1.8	1.5	1.3	1.1	.9	.8
18	1.81	0.75	0.12	2.0	1.6	1.3	1.1	1.0	.8	.7
19	1.72	0.83	0.13	1.8	1.4	1.2	1.0	.9	.7	.6
20	1.63	0.92	0.14	1.6	1.3	1.1	.9	.8	.7	.5
21	1.55	1.01	0.14	1.5	1.2	1.0	.8	.7	.6	.5
22	1.48	1.11	0.15	1.3	1.1	.9	.8	.7	.5	.5
23	1.42	1.22	0.16	1.2	1.0	.8	.7	.6	.5	.4
24	1.36	1.33	0.16	1.1	.9	.7	.6	.6	.5	.4
25	1.31	1.45	0.17	1.0	.8	.7	.6	.5	.4	.4
26	1.26	1.56	0.18	1.0	.8	.6	.5	.5	.4	.3
27	1.21	1.68	0.18	.9	.7	.6	.5	.4	.4	.3
28	1.17	1.81	0.19	.8	.7	.6	.5	.4	.3	.3
29	1.13	1.95	0.20	.8	.6	.5	.4	.4	.3	.3

# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

### 5-INCH I BEAM, No. 11, HEAVY, 13 LBS. PER FOOT.

Depth, 5". Width of Flanges, 2.91". Thickness of Web, 0.405".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	4.55	0.07	0.03	18.2	14.6	12.1	10.4	9.1	7.3	6.1
6	3.79	0.10	0.04	12.6	10.1	8.4	7.2	6.3	5.1	4.2
7	3.25	0.14	0.05	9.3	7.4	6.2	5.3	4.6	3.7	3.1
8	2.85	0.18	0.05	7.1	5.7	4.8	4.1	3.6	2.9	2.4
9	2.53	0.23	0.06	5.6	4.5	3.7	3.2	2.8	2.2	1.9
10	2.28	0.28	0.07	4.6	3.6	3.0	2.6	2.3	1.8	1.5
11	2.07	0.34	0.07	3.8	3.0	2.5	2.1	1.9	1.5	1.3
12	1.90	0.40	0.08	3.2	2.5	2.1	1.8	1.6	1.3	1.1
13	1.75	0.47	0.08	2.7	2.2	1.8	1.5	1.3	1.1	.9
14	1.63	0.55	0.09	2.3	1.9	1.6	1.3	1.2	.9	.8
15	1.52	0.63	0.10	2.0	1.6	1.4	1.2	1.0	.8	.7
16	1.42	0.71	0.10	1.8	1.4	1.2	1.0	.9	.7	.6
17	1.34	0.80	0.11	1.6	1.3	1.0	.9	.8	.6	.5
18	1.26	0.90	0.12	1.4	1.1	.9	.8	.7	.6	.5
19	1.20	1.00	0.12	1.3	1.0	.8	.7	.6	.5	.4
20	1.14	1.11	0.13	1.1	.9	.8	.7	.6	.5	.4
21	1.08	1.22	0.14	1.0	.8	.7	.6	.5	.4	.3
22	1.03	1.34	0.14	.9	.8	.6	.5	.5	.4	.3
23	.99	1.47	0.15	.9	.7	.6	.5	.4	.3	.3
24	.95	1.60	0.16	.8	.6	.5	.5	.4	.3	.3

# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

### 5-INCH I BEAM, No. 11, LIGHT, 10 LBS. PER FOOT.

Depth, 5". Width of Flanges, 2.73". Thickness of Web, 0.225".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	3.95	0.07	0.03	15.8	12.6	10.5	9.0	7.9	6.3	5.3
6	3.29	0.10	0.03	11.0	8.8	7.3	6.3	5.5	4.4	3.7
7	2.82	0.14	0.04	8.1	6.4	5.4	4.6	4.0	3.2	2.7
8	2.47	0.18	0.04	6.2	4.9	4.1	3.5	3.1	2.5	2.1
9	2.20	0.23	0.05	4.9	3.9	3.3	2.8	2.4	2.0	1.6
10	1.98	0.28	0.05	4.0	3.2	2.6	2.3	2.0	1.6	1.3
11	1.80	0.34	0.06	3.3	2.6	2.2	1.9	1.7	1.3	1.1
12	1.65	0.40	0.06	2.8	2.2	1.8	1.6	1.4	1.1	.9
13	1.52	0.47	0.07	2.3	1.9	1.6	1.3	1.2	.9	.8
14	1.41	0.55	0.07	2.0	1.6	1.3	1.1	1.0	.8	.7
15	1.32	0.63	0.08	1.8	1.4	1.2	1.0	.9	.7	.6
16	1.24	0.71	0.08	1.6	1.2	1.0	.9	.8	.6	.5
17	1.16	0.80	0.09	1.4	1.1	.9	.8	.7	.5	.5
18	1.10	0.90	0.09	1.2	1.0	.8	.7	.6	.5	.4
19	1.04	1.00	0.10	1.1	.9	.7	.6	.5	.4	.4
20	.99	1.11	0.10	1.0	.8	.7	.6	.5	.4	.3
21	.94	1.22	0.11	.9	.7	.6	.5	.4	.4	.3
22	.90	1.34	0.11	.8	.7	.5	.5	.4	.3	.3
23	.86	1.47	0.12	.7	.6	.5	.4	.4	.3	.2
24	.82	1.60	0.12	.7	.5	.4	.4	.3	.3	.2

# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

### 4-INCH I BEAM, No. 12, HEAVY, 10 LBS. PER FOOT.

Depth, 4". Width of Flanges, 2.63". Thickness of Web, 0.38".

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	2.80	0.09	0.03	11.2	9.0	7.5	6.4	5.6	4.5	3.7
6	2.33	0.13	0.03	7.8	6.2	5.2	4.4	3.9	3.1	2.6
7	2.00	0.17	0.04	5.7	4.6	3.8	3.3	2.9	2.3	1.9
8	1.75	0.22	0.04	4.4	3.5	2.9	2.5	2.2	1.8	1.5
9	1.56	0.28	0.05	3.5	2.8	2.3	2.0	1.7	1.4	1.2
10	1.40	0.35	0.05	2.8	2.2	1.9	1.6	1.4	1.1	.9
11	1.27	0.42	0.06	2.3	1.8	1.5	1.3	1.2	.9	.8
12	1.17	0.50	0.06	2.0	1.6	1.3	1.1	1.0	.8	.7
13	1.08	0.59	0.07	1.7	1.3	1.1	.9	.8	.7	.6
14	1.00	0.68	0.07	1.4	1.1	1.0	.8	.7	.6	.5
15	0.93	0.78	0.08	1.2	1.0	.8	.7	.6	.5	.4
16	0.88	0.89	0.08	1.1	.9	.7	.6	.6	.4	.4
17	0.82	1.01	0.09	1.0	.8	.6	.6	.5	.4	.3
18	0.78	1.13	0.09	.9	.7	.6	.5	.4	.3	.3
19	0.74	1.26	0.10	.8	.6	.5	.4	.4	.3	.3

# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections.

### 4-INCH I BEAM, No. 12, LIGHT, 8 LBS. PER FOOT.

Depth, 4". Width of Flanges, 2.48". Thickness of Web, 0.23"

Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	2.48	0.09	0.02	9.9	7.9	6.6	5.7	5.0	4.0	3.3
6	2.07	0.13	0.02	6.9	5.5	4.6	3.9	3.5	2.8	2.3
7	1.77	0.17	0.03	5.1	4.0	3.4	2.9	2.5	2.0	1.7
8	1.55	0.22	0.03	3.9	3.1	2.6	2.2	1.9	1.6	1.3
9	1.38	0.28	0.04	3.1	2.5	2.0	1.8	1.5	1.2	1.0
10	1.24	0.35	0.04	2.5	2.0	1.7	1.4	1.2	1.0	.8
11	1.13	0.42	0.04	2.1	1.6	1.4	1.2	1.0	.8	.7
12	1.03	0.50	0.05	1.7	1.4	1.1	1.0	.9	.7	.6
13	0.95	0.59	0.05	1.5	1.2	1.0	.8	.7	.6	.5
14	0.89	0.68	0.06	1.3	1.0	.8	.7	.6	.5	.4
15	0.83	0.78	0.06	1.1	.9	.7	.6	.6	.4	.4
16	0.78	0.89	0.06	1.0	.8	.6	.6	.5	.4	.3
17	0.73	1.01	0.07	.9	.7	.6	.5	.4	.3	.3
18	0.69	1.13	0.07	.8	.6	.5	.4	.4	.3	.3
19	0.65	1.26	0.08	.7	.5	.5	.4	.3	.3	.2

# DEARBORN FOUNDRY COMPANY.

## Carnegie Iron Sections. 3-INCH I BEAM, No. 13, LIGHT, 7 LBS. PER FOOT.

Depth, 3". Width of Flanges, 2.32". Thickness of Web, 0.19".  
Maximum fiber strain = 12000 lbs. per square inch.

Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	1.65	0.12	0.02	6.6	5.3	4.4	3.8	3.3	2.6	2.2
6	1.37	0.17	0.02	4.6	3.7	3.0	2.6	2.3	1.8	1.5
7	1.18	0.23	0.02	3.4	2.7	2.2	1.9	1.7	1.3	1.1
8	1.03	0.29	0.03	2.6	2.1	1.7	1.5	1.3	1.0	.9
9	0.92	0.37	0.03	2.0	1.6	1.4	1.2	1.0	.8	.7
10	0.82	0.46	0.04	1.6	1.3	1.1	.9	.8	.7	.5
11	0.75	0.56	0.04	1.4	1.1	.9	.8	.7	.5	.5
12	0.69	0.67	0.04	1.2	.9	.8	.7	.6	.5	.4
13	0.63	0.78	0.05	1.0	.8	.6	.6	.5	.4	.3
14	0.59	0.91	0.05	.8	.7	.6	.5	.4	.3	.3

## Carnegie Iron Sections.

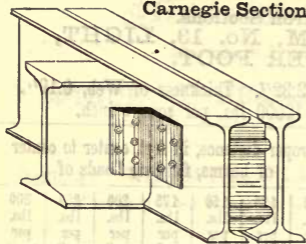
## 3-INCH I BEAM, No. 13, HEAVY, 9 LBS. PER FOOT.

Depth, 3". Width of Flanges, 2.52". Thickness of Web, 0.39".  
Maximum fiber strain = 12000 lbs. per square inch.

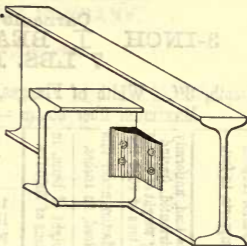
Distance between supports, in feet.	Safe load, uniformly distributed, (including weight of beam,) in tons of 2000 lbs.	Deflection under this load, in inches.	Weight of beam, in tons of 2000 lbs.	Proper distance, in feet, center to center of beams, for Safe Loads of						
				100 lbs. per sq. ft.	125 lbs. per sq. ft.	150 lbs. per sq. ft.	175 lbs. per sq. ft.	200 lbs. per sq. ft.	250 lbs. per sq. ft.	300 lbs. per sq. ft.
5	1.89	0.12	0.02	7.6	6.0	5.0	4.3	3.8	3.0	2.5
6	1.57	0.17	0.03	5.2	4.2	3.5	3.0	2.6	2.1	1.7
7	1.35	0.23	0.03	3.9	3.1	2.6	2.2	1.9	1.5	1.3
8	1.18	0.29	0.04	3.0	2.4	2.0	1.7	1.5	1.2	1.0
9	1.05	0.37	0.04	2.3	1.9	1.6	1.3	1.2	.9	.8
10	0.94	0.46	0.05	1.9	1.5	1.3	1.1	.9	.8	.6
11	0.86	0.56	0.05	1.6	1.2	1.0	.9	.8	.6	.5
12	0.79	0.67	0.05	1.3	1.1	.9	.8	.7	.5	.4
13	0.73	0.78	0.06	1.1	.9	.7	.6	.6	.4	.4
14	0.67	0.91	0.06	1.0	.8	.6	.5	.5	.4	.3

# DEARBORN FOUNDRY COMPANY.

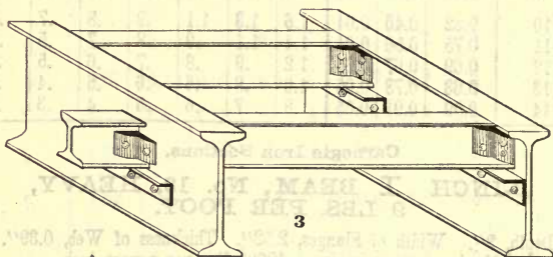
## Carnegie Sections.



1



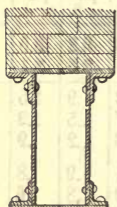
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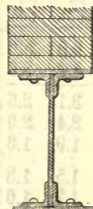
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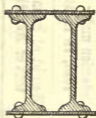
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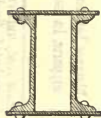
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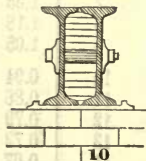
7



8



9



10

## EXPLANATION OF TABLE ON RIVETED GIRDERS.

Riveted girders are used in cases where rolled I Beams are insufficient to carry the load. On page 186 of the lithographed plates will be found illustrations of various forms of riveted girders. The sections with single webs are more economical than those with double webs (box girders), but the latter are stiffer laterally, and should always be used where a great length of span requires a wide top flange. If the girder is not held in position sideways, the proportion of length of span to width of flange should not exceed twenty without making provision for such increase by an addition of metal in the compression flange beyond that required by the table.

The web of the girder must be made of such thickness that there will be no tendency to buckle, and that the vertical shearing stress per square inch will not exceed 9000 lbs. This shearing stress is greatest nearest the supports and is obtained by dividing half the load upon the girder by the web section. The first condition (security against buckling) is attained when this

shearing stress does not exceed  $1 + \frac{10000 d^2}{3000 t^3}$  in which d repre-

sents the depth of web of girder and t its thickness, in inches. Ordinarily this formula gives a lower strain per square inch than 9000 lbs., so that both conditions are usually attained when the first is. Instead of increasing the thickness of the web, it may be stiffened also by means of vertical angle irons riveted to it at proper intervals. These latter should always be less than the depth of the girder, at least near the ends, but towards the middle of the girder the stiffeners may be placed further apart or entirely omitted. Stiffeners should always be used at or near the supports, and at any other points where there is a concentration of heavy loads.

The rivets should be  $\frac{3}{4}$ "', unless the girder is light, when  $\frac{5}{8}$ "' may be sufficient. The spacing ought not to exceed 6"' and should be closer for heavy flanges, but in all cases it should be close at the ends, say 3"' for a distance of 18"' to 24"' at each end.

The following table furnishes a ready means of determining the section of girder necessary to carry a certain load, for any span length from 10 to 39 feet, inclusive.

It will be noticed that the table is calculated for an allowed fiber strain of 10000 lbs. per square inch, while the tables on rolled beams are calculated for a fiber strain of 12000 lbs. per square inch. This reduction in the allowed strain is intended to cover the loss in strength, (somewhat greater than the loss in section,) due to the rivet holes, and the riveted girders proportioned by this table, will be found to be of about the same strength as the rolled beams proportioned by the tables applying to them. The transverse strength of the web is neglected in the table.

The term flange, as applied to riveted girders, embraces all the metal in top or bottom of girder exclusive of web plate; or, in the case of a rolled beam or channel with top and bottom plates, all the metal exclusive of web between fillets.

Girders intended to carry plastering, should be limited in depth, out to out, to  $\frac{1}{24}$ th of the span length or  $\frac{1}{2}$ " per foot of this length, otherwise the deflection is liable to cause the plastering to crack.

#### EXAMPLE OF APPLICATION OF TABLE.

A 20" box girder is to carry a 13" brick wall, equivalent to a weight of 30 tons over a space 20' in the clear. What size of girder is required?

*Answer:* The value of the coefficient for 20' span and 20" depth, as per table, = 300, and for 21' span and 20" depth = 315. The span, in this case, may be assumed at 20'-6", and the coefficient therefore at 307. Consequently  $\frac{307 \times 30}{1000} = 9.21$

will be the area required in each flange. Making the top and bottom plates  $12" \times \frac{3}{8}"$ , = 4.5 sq. in., there remain 4.7 sq. in. for the two angles, = 8 lbs. per foot apiece. Making the webs

$20" \times \frac{1}{4}"$ , the shearing stress =  $\frac{30 \times 2000 \times \frac{1}{2}}{2 \times 20 \times \frac{1}{4}} = 3000$  lbs.

per square inch, which is also safe against buckling, since

$$\frac{10000}{1 + \frac{d^2}{3000 t^2}} = \frac{10000}{1 + \frac{(20)^2}{3000 (\frac{1}{4})^2}} = 3200 \text{ lbs., allowed.}$$

# DEARBORN FOUNDRY COMPANY.

## RIVETED GIRDERS.

Coefficients for determining the area required in flanges, allowing 10000 lbs. per square inch of gross section fiber strain :

Multiply the load, in tons of 2000 lbs., uniformly distributed, by the coefficient, and divide by 1000; the quotient will be the gross area, in square inches, required for each flange.

Distance between supports in Feet.	Depth of Girder, Out to Out of Web, in Inches.												
	12	14	16	18	20	22	24	26	28	30	32	34	36
10	250	214	188	167	150	136	125	115	107	100	94	88	83
11	275	236	206	183	165	150	138	127	118	110	103	97	92
12	300	257	225	200	180	164	150	138	129	120	113	106	100
13	325	279	244	217	195	177	163	150	139	130	122	115	108
14	350	300	263	233	210	191	175	162	150	140	131	124	117
15	375	321	281	250	225	205	188	173	161	150	141	132	125
16	400	343	300	267	240	218	200	185	171	160	150	141	133
17	425	364	319	283	255	232	213	196	182	170	159	150	142
18	450	386	338	300	270	245	225	208	193	180	169	159	150
19	475	407	356	317	285	259	238	219	204	190	178	168	158
20	500	429	375	333	300	273	250	231	214	200	188	176	167
21	525	450	394	350	315	286	263	242	225	210	197	185	175
22	550	471	413	367	330	300	275	254	236	220	206	194	183
23	575	493	431	383	345	314	288	265	246	230	216	203	192
24	600	514	450	400	360	327	300	277	257	240	225	212	200
25	625	536	469	417	375	341	313	288	268	250	234	221	208
26	650	557	488	433	390	355	325	300	279	260	244	229	217
27	675	579	506	450	405	368	338	312	289	270	253	238	225
28	700	600	525	467	420	382	350	323	300	280	263	247	233
29	725	621	544	483	435	395	363	335	311	290	272	256	242
30	750	643	563	500	450	409	375	346	321	300	281	265	250
31	775	664	581	517	465	423	388	358	332	310	291	274	258
32	800	686	600	533	480	436	400	369	343	320	300	282	267
33	825	707	619	550	495	450	413	381	354	330	309	291	275
34	850	729	638	567	510	464	425	392	364	340	319	300	283
35	875	750	656	583	525	477	438	404	375	350	328	309	292
36	900	771	675	600	540	491	450	415	386	360	338	318	300
37	925	793	694	617	555	505	463	427	396	370	347	326	308
38	950	814	713	633	570	518	475	438	407	380	356	335	317
39	975	836	731	650	585	532	488	450	418	390	366	344	325

## DEARBORN FOUNDRY COMPANY.

### GENERAL NOTES ON FLOORS AND ROOFS.

On page 186 will be found examples of floor joists and their connections. When two beams are placed side by side, as in Fig. 1, they should be connected together by means of bolts and cast-iron separators fitted closely between the flanges of the beams. The office of these separators is to hold in position the compression flange of the beams, preventing side deflection or buckling, and to firmly unite the two beams so that they will act in unison. Separators should be used near the supports and at distances of five or six feet. Their weight will range from 19 lbs. for the heavy 15'' beams, to 5 lbs. for 6'' beams.

Figures 1, 2 and 3 show the methods of connecting beams with each other. In Figs. 1 and 2 the lighter beam is coped into the heavier one, the weight being carried by the lower flange of the latter. The angle with which the webs are connected serves only to hold the beams in position in this case. In Fig. 3 the load of the smaller beams is transferred to the larger by means of angles riveted to the webs, and in case this is not sufficient, an angle may be riveted to the web of the larger beam, underneath the smaller, as shown, to assist in carrying the load.

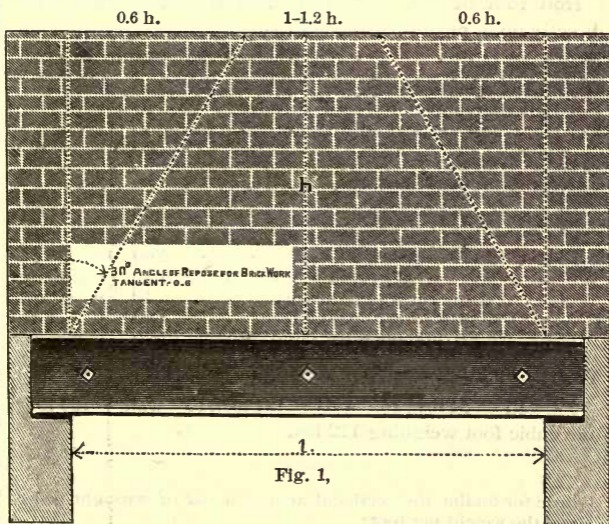
Figures 5, 6, 7, 8, 9 and 10, on page 186, are illustrations of the various forms of girders, such as it is often necessary to use in the front of buildings to carry walls, or in the interior to support the joists. Where these girders rest upon the wall, cast or wrought iron bed plates should be used, to distribute the pressure over a greater surface, and thereby prevent the crushing of the brick directly under the girder. In some cases a tough, large size stone will answer without the plates, but where the pressure is heavy both plates and stone should be used. Figs. 5, 6, 9 and 10 are illustrations.

On page 191, Fig. 1, is represented a girder composed of two beams, carrying a brick wall, in position. In case of failure of the girder, only a part of the wall above it would drop down, the line of rupture for brick work making an

angle of about  $30^\circ$  with the vertical, called the angle of repose. The weight to be carried by the girder may, therefore, be considered to be only that part of the wall between the lines of rupture, provided, that in building the wall, the center of the girder was supported temporarily with a wooden prop, preventing deflection. Several courses should, however, be laid before this is done.

If  $l$  = the clear span of girder, and  $h$  = the height of wall above it, the superficial area of the trapezoid between the lines of rupture, is expressed by  $h \div 2 (2l - 1.2 h)$ , but deductions must, of course, be made for windows or other openings in the wall, if there are any.

In order to be entirely on the safe side, and also for the sake of simplicity, the weight of wall between vertical lines directly over the girder, is frequently adopted as the load to be carried by it.



There are various fire-proof floors in use. One of the most common is that represented by Fig. 1, on page 186. Four-inch brick arches are built between beams, spaced *not*

over 5 feet apart, and tied together by rods  $\frac{3}{4}$ " to 1" diameter at intervals of 4' to 6', so as to take the thrust of the arches off the walls. Tee or angle irons are inserted in the wall, so as to hold it firmly in line between the points held by the rods. The top of the arches is leveled off with concrete, allowing space, however, for wooden strips, to which the floor timber is nailed. The plastering for ceiling usually covers the arches only, so that the ceiling will appear curved and show the lower flanges of the iron beams.

The weight of a fire-proof floor, consisting of four-inch brick arches between beams, with concrete filling above the arches and flooring, will generally average about 70 lbs. per square foot, exclusive of the weight of the beams. The following are average weights of some other constructions, and the usual assumptions made for superimposed load:

Iron roof of 100 feet span, with corrugated iron laid directly upon purlins, will weigh—

Approximately, - - - - -	10 lbs. $\frac{1}{2}$ sq. ft.
If boarded, add - - - - -	3 " "
For lathed and plastered ceiling allow - - -	10 " "
For snow and vertical component wind force, allow - - - - -	30 " "

For superimposed load on—

Floors of dwellings, assume - - - - -	60 " "
Floors of churches, theatres and ball rooms, - - -	125 " "
Floors of warehouses, - - - - -	250 " "
Weight of snow freshly fallen, - - - - -	5 to 12 " cub. ft.
Weight of snow saturated (slush), - - - - -	40 " "
Crowd of people closely packed, - - - - -	80 " sq. ft.
Wind pressure (violent hurricane), - - - - -	50 " "

Weight of brick work per superficial foot, for a—

9" wall = 84 lbs., 13" wall = 121 lbs., 18" wall = 168 lbs.,  
one cubic foot weighing 112 lbs.

Rule for finding the sectional area of a bar of wrought iron, given the weight per foot:

Multiply by 3 and divide by 10.

Rule for finding the weight per foot, given the area:

Divide by 3 and multiply by 10.

# DEARBORN FOUNDRY COMPANY.

## STRENGTH OF MATERIALS.

### ULTIMATE RESISTANCE TO TENSION

IN LBS. PER SQUARE INCH.

#### METALS.

	Average.
Brass, cast, - - - - -	18000
“ wire, - - - - -	49000
Bronze or gun metal, - - - - -	36000
Copper, cast, - - - - -	19000
“ sheet, - - - - -	30000
“ bolts, - - - - -	36000
“ wire, - - - - -	60000
Iron, cast, 13400 to 29000, - - - - -	16500
“ wrought, round or square bars of 1 to 2 inch diameter, double refined, -	50000 to 54000
“ wrought, specimens $\frac{1}{2}$ inch square, cut from large bars of double refined iron, -	50000 to 53000
“ wrought, double refined, in large bars of about 7 square inches section, - -	46000 to 47000
“ wrought, plates, angles and other shapes, -	48000 to 51000
“ “ plates over 36" wide, -	46000 to 50000

Wrought iron, suitable for the tension members of bridges, should be double refined, and show a permanent elongation of 20 per cent. in 5", when broken in small specimens, and a reduction of area of 25 per cent. at point of fracture.

The modulus of elasticity of Union Iron Mills' double refined bar iron is 25000000 to 26000000, from tests made on finished eyebars.

Iron, wire, - - - - -	70000 to 100000
“ wire-ropes, - - - - -	90000
Lead, sheet, - - - - -	3300
Steel, - - - - -	65000 to 120000
Tin, cast, - - - - -	4600
Zinc, - - - - -	7000 to 8000

# WEIGHTS OF FLAT ROLLED IRON PER LINEAL FOOT.

For Thicknesses from  $\frac{1}{16}$  in. to 2 in. and Widths  
from 1 in. to 12 $\frac{3}{4}$  in.

Iron weighing 480 lbs. per cubic foot.

Thickness in Inches.	1"	1 $\frac{1}{4}$ "	1 $\frac{1}{2}$ "	1 $\frac{3}{4}$ "	2"	2 $\frac{1}{4}$ "	2 $\frac{1}{2}$ "	2 $\frac{3}{4}$ "	12"
$\frac{1}{16}$	.208	.260	.313	.365	.417	.469	.521	.573	2.50
$\frac{1}{8}$	.417	.521	.625	.729	.833	.938	1.04	1.15	5.00
$\frac{3}{16}$	.625	.781	.938	1.09	1.25	1.41	1.56	1.72	7.50
$\frac{1}{4}$	.833	1.04	1.25	1.46	1.67	1.88	2.08	2.29	10.00
$\frac{5}{16}$	1.04	1.30	1.56	1.82	2.08	2.34	2.60	2.86	12.50
$\frac{3}{8}$	1.25	1.56	1.88	2.19	2.50	2.81	3.13	3.44	15.00
$\frac{7}{16}$	1.46	1.82	2.19	2.55	2.92	3.28	3.65	4.01	17.50
$\frac{1}{2}$	1.67	2.08	2.50	2.92	3.33	3.75	4.17	4.58	20.00
$\frac{9}{16}$	1.88	2.34	2.81	3.28	3.75	4.22	4.69	5.16	22.50
$\frac{5}{8}$	2.08	2.60	3.13	3.65	4.17	4.69	5.21	5.73	25.00
$1\frac{1}{16}$	2.29	2.86	3.44	4.01	4.58	5.16	5.73	6.30	27.50
$\frac{3}{4}$	2.50	3.13	3.75	4.38	5.00	5.63	6.25	6.88	30.00
$1\frac{1}{8}$	2.71	3.39	4.06	4.74	5.42	6.09	6.77	7.45	32.50
$\frac{7}{8}$	2.92	3.65	4.38	5.10	5.83	6.56	7.29	8.02	35.00
$1\frac{1}{4}$	3.13	3.91	4.69	5.47	6.25	7.03	7.81	8.59	37.50
1	3.33	4.17	5.00	5.83	6.67	7.50	8.33	9.17	40.00
$1\frac{1}{8}$	3.54	4.43	5.31	6.20	7.08	7.97	8.85	9.74	42.50
$1\frac{1}{4}$	3.75	4.69	5.63	6.56	7.50	8.44	9.38	10.31	45.00
$1\frac{3}{8}$	3.96	4.95	5.94	6.93	7.92	8.91	9.90	10.89	47.50
$1\frac{1}{2}$	4.17	5.21	6.25	7.29	8.33	9.38	10.42	11.46	50.00
$1\frac{5}{8}$	4.37	5.47	6.56	7.66	8.75	9.84	10.94	12.03	52.50
$1\frac{3}{4}$	4.58	5.73	6.88	8.02	9.17	10.31	11.46	12.60	55.00
$1\frac{7}{8}$	4.79	5.99	7.19	8.39	9.58	10.78	11.98	13.18	57.50
$1\frac{1}{2}$	5.00	6.25	7.50	8.75	10.00	11.25	12.50	13.75	60.00
$1\frac{9}{8}$	5.21	6.51	7.81	9.11	10.42	11.72	13.02	14.32	62.50
$1\frac{5}{4}$	5.42	6.77	8.13	9.48	10.83	12.19	13.54	14.90	65.00
$1\frac{11}{8}$	5.63	7.03	8.44	9.84	11.25	12.66	14.06	15.47	67.50
$1\frac{3}{4}$	5.83	7.29	8.75	10.21	11.67	13.13	14.58	16.04	70.00
$1\frac{13}{8}$	6.04	7.55	9.06	10.57	12.08	13.59	15.10	16.61	72.50
$1\frac{7}{4}$	6.25	7.81	9.38	10.94	12.50	14.06	15.63	17.19	75.00
$1\frac{15}{8}$	6.46	8.07	9.69	11.30	12.92	14.53	16.15	17.76	77.50
2	6.67	8.33	10.00	11.67	13.33	15.00	16.67	18.33	80.00

# WEIGHTS OF FLAT ROLLED IRON PER LINEAL FOOT.

(CONTINUED.)

Thickness in Inches.	3"	3¼"	3½"	3¾"	4"	4¼"	4½"	4¾"	12"
$\frac{1}{16}$	.625	.677	.729	.781	.833	.885	.938	.990	2.50
$\frac{1}{8}$	1.25	1.35	1.46	1.56	1.67	1.77	1.88	1.98	5.00
$\frac{3}{16}$	1.88	2.03	2.19	2.34	2.50	2.66	2.81	2.97	7.50
$\frac{1}{4}$	2.50	2.71	2.92	3.13	3.33	3.54	3.75	3.96	10.00
$\frac{5}{16}$	3.13	3.39	3.65	3.91	4.17	4.43	4.69	4.95	12.50
$\frac{3}{8}$	3.75	4.06	4.38	4.69	5.00	5.31	5.63	5.94	15.00
$\frac{7}{16}$	4.38	4.74	5.10	5.47	5.83	6.20	6.56	6.93	17.50
$\frac{1}{2}$	5.00	5.42	5.83	6.25	6.67	7.08	7.50	7.92	20.00
$\frac{9}{16}$	5.63	6.09	6.56	7.03	7.50	7.97	8.44	8.91	22.50
$\frac{5}{8}$	6.25	6.77	7.29	7.81	8.33	8.85	9.38	9.90	25.00
$\frac{11}{16}$	6.88	7.45	8.02	8.59	9.17	9.74	10.31	10.89	27.50
$\frac{3}{4}$	7.50	8.13	8.75	9.38	10.00	10.63	11.25	11.88	30.00
$\frac{13}{16}$	8.13	8.80	9.48	10.16	10.83	11.51	12.19	12.86	32.50
$\frac{7}{8}$	8.75	9.48	10.21	10.94	11.67	12.40	13.13	13.85	35.00
$\frac{15}{16}$	9.38	10.16	10.94	11.72	12.50	13.28	14.06	14.84	37.50
1	10.00	10.83	11.67	12.50	13.33	14.17	15.00	15.83	40.00
$\frac{1}{16}$	10.63	11.51	12.40	13.28	14.17	15.05	15.94	16.82	42.50
$1\frac{1}{8}$	11.25	12.19	13.13	14.06	15.00	15.94	16.88	17.81	45.00
$1\frac{3}{16}$	11.88	12.86	13.85	14.84	15.83	16.82	17.81	18.80	47.50
$1\frac{1}{4}$	12.50	13.54	14.58	15.63	16.67	17.71	18.75	19.79	50.00
$1\frac{5}{16}$	13.13	14.22	15.31	16.41	17.50	18.59	19.69	20.78	52.50
$1\frac{3}{8}$	13.75	14.90	16.04	17.19	18.33	19.48	20.63	21.77	55.00
$1\frac{7}{16}$	14.38	15.57	16.77	17.97	19.17	20.36	21.56	22.76	57.50
$1\frac{1}{2}$	15.00	16.25	17.50	18.75	20.00	21.25	22.50	23.75	60.00
$1\frac{9}{16}$	15.63	16.93	18.23	19.53	20.83	22.14	23.44	24.74	62.50
$1\frac{5}{8}$	16.25	17.60	18.96	20.31	21.67	23.02	24.38	25.73	65.00
$1\frac{11}{16}$	16.88	18.28	19.69	21.09	22.50	23.91	25.31	26.72	67.50
$1\frac{3}{4}$	17.50	18.96	20.42	21.88	23.33	24.79	26.25	27.71	70.00
$1\frac{13}{16}$	18.13	19.64	21.15	22.66	24.17	25.68	27.19	28.70	72.50
$1\frac{7}{8}$	18.75	20.31	21.88	23.44	25.00	26.56	28.13	29.69	75.00
$1\frac{15}{16}$	19.38	20.99	22.60	24.22	25.83	27.45	29.06	30.68	77.50
2	20.00	21.67	23.33	25.00	26.67	28.33	30.00	31.67	80.00

# WEIGHTS OF FLAT ROLLED IRON PER LINEAL FOOT.

(CONTINUED.)

Thickness in Inches.	5"	5 $\frac{1}{4}$ "	5 $\frac{1}{2}$ "	5 $\frac{3}{4}$ "	6"	6 $\frac{1}{4}$ "	6 $\frac{1}{2}$ "	6 $\frac{3}{4}$ "	12"
$\frac{1}{16}$	1.04	1.09	1.15	1.20	1.25	1.30	1.35	1.41	2.50
$\frac{1}{8}$	2.08	2.19	2.29	2.40	2.50	2.60	2.71	2.81	5.00
$\frac{3}{16}$	3.13	3.28	3.44	3.59	3.75	3.91	4.06	4.22	7.50
$\frac{1}{4}$	4.17	4.38	4.58	4.79	5.00	5.21	5.42	5.63	10.00
$\frac{5}{16}$	5.21	5.47	5.73	5.99	6.25	6.51	6.77	7.03	12.50
$\frac{3}{8}$	6.25	6.56	6.88	7.19	7.50	7.81	8.13	8.44	15.00
$\frac{7}{16}$	7.29	7.66	8.02	8.39	8.75	9.11	9.48	9.84	17.50
$\frac{1}{2}$	8.33	8.75	9.17	9.58	10.00	10.42	10.83	11.25	20.00
$\frac{9}{16}$	9.38	9.84	10.31	10.78	11.25	11.72	12.19	12.66	22.50
$\frac{5}{8}$	10.42	10.94	11.46	11.98	12.50	13.02	13.54	14.06	25.00
$\frac{11}{16}$	11.46	12.03	12.60	13.18	13.75	14.32	14.90	15.47	27.50
$\frac{3}{4}$	12.50	13.13	13.75	14.38	15.00	15.63	16.25	16.88	30.00
$\frac{13}{16}$	13.54	14.22	14.90	15.57	16.25	16.93	17.60	18.28	32.50
$\frac{7}{8}$	14.58	15.31	16.04	16.77	17.50	18.23	18.96	19.69	35.00
$\frac{15}{16}$	15.63	16.41	17.19	17.97	18.75	19.53	20.31	21.09	37.50
1	16.67	17.50	18.33	19.17	20.00	20.83	21.67	22.50	40.00
$1\frac{1}{16}$	17.71	18.59	19.48	20.36	21.25	22.14	23.02	23.91	42.50
$1\frac{1}{8}$	18.75	19.69	20.63	21.56	22.50	23.44	24.38	25.31	45.00
$1\frac{1}{16}$	19.79	20.78	21.77	22.76	23.75	24.74	25.73	26.72	47.50
$1\frac{1}{4}$	20.83	21.88	22.92	23.96	25.00	26.04	27.08	28.13	50.00
$1\frac{5}{16}$	21.88	22.97	24.06	25.16	26.25	27.34	28.44	29.53	52.50
$1\frac{3}{8}$	22.92	24.06	25.21	26.35	27.50	28.65	29.79	30.94	55.00
$1\frac{7}{16}$	23.96	25.16	26.35	27.55	28.75	29.95	31.15	32.34	57.50
$1\frac{1}{2}$	25.00	26.25	27.50	28.75	30.00	31.25	32.50	33.75	60.00
$1\frac{9}{16}$	26.04	27.34	28.65	29.95	31.25	32.55	33.85	35.16	62.50
$1\frac{5}{8}$	27.08	28.44	29.79	31.15	32.50	33.85	35.21	36.56	65.00
$1\frac{11}{16}$	28.13	29.53	30.94	32.34	33.75	35.16	36.56	37.97	67.50
$1\frac{3}{4}$	29.17	30.63	32.08	33.54	35.00	36.46	37.92	39.38	70.00
$1\frac{13}{16}$	30.21	31.72	33.23	34.74	36.25	37.76	39.27	40.78	72.50
$1\frac{7}{8}$	31.25	32.81	34.38	35.94	37.50	39.06	40.63	42.19	75.00
$1\frac{15}{16}$	32.29	33.91	35.52	37.14	38.75	40.36	41.98	43.59	77.50
2	33.33	35.00	36.67	38.33	40.00	41.67	43.33	45.00	80.00

# WEIGHTS OF FLAT ROLLED IRON PER LINEAL FOOT.

(CONTINUED.)

Thickness in Inches.	7"	7¼"	7½"	7¾"	8"	8¼"	8½"	8¾"	12"
$\frac{1}{16}$	1.46	1.51	1.56	1.61	1.67	1.72	1.77	1.82	2.50
$\frac{1}{8}$	2.92	3.02	3.13	3.23	3.33	3.44	3.54	3.65	5.00
$\frac{3}{16}$	4.38	4.53	4.69	4.84	5.00	5.16	5.31	5.47	7.50
$\frac{1}{4}$	5.83	6.04	6.25	6.46	6.67	6.88	7.08	7.29	10.00
$\frac{5}{16}$	7.29	7.55	7.81	8.07	8.33	8.59	8.85	9.11	12.50
$\frac{3}{8}$	8.75	9.06	9.38	9.69	10.00	10.31	10.63	10.94	15.00
$\frac{7}{16}$	10.21	10.57	10.94	11.30	11.67	12.03	12.40	12.76	17.50
$\frac{1}{2}$	11.67	12.08	12.50	12.92	13.33	13.75	14.17	14.58	20.00
$\frac{9}{16}$	13.13	13.59	14.06	14.53	15.00	15.47	15.94	16.41	22.50
$\frac{5}{8}$	14.58	15.10	15.63	16.15	16.67	17.19	17.71	18.23	25.00
$\frac{11}{16}$	16.04	16.61	17.19	17.76	18.33	18.91	19.48	20.05	27.50
$\frac{3}{4}$	17.50	18.13	18.75	19.38	20.00	20.63	21.25	21.88	30.00
$\frac{13}{16}$	18.96	19.64	20.31	20.99	21.67	22.34	23.02	23.70	32.50
$\frac{7}{8}$	20.42	21.15	21.88	22.60	23.33	24.06	24.79	25.52	35.00
$\frac{15}{16}$	21.88	22.66	23.44	24.22	25.00	25.78	26.56	27.34	37.50
1	23.33	24.17	25.00	25.83	26.67	27.50	28.33	29.17	40.00
$1\frac{1}{16}$	24.79	25.68	26.56	27.45	28.33	29.22	30.10	30.99	42.50
$1\frac{1}{8}$	26.25	27.19	28.13	29.06	30.00	30.94	31.88	32.81	45.00
$1\frac{3}{16}$	27.71	28.70	29.69	30.68	31.67	32.66	33.65	34.64	47.50
$1\frac{1}{4}$	29.17	30.21	31.25	32.29	33.33	34.38	35.42	36.46	50.00
$1\frac{5}{16}$	30.62	31.72	32.81	33.91	35.00	36.09	37.19	38.28	52.50
$1\frac{3}{8}$	32.08	33.23	34.38	35.52	36.67	37.81	38.96	40.10	55.00
$1\frac{7}{16}$	33.54	34.74	35.94	37.14	38.33	39.53	40.73	41.93	57.50
$1\frac{1}{2}$	35.00	36.25	37.50	38.75	40.00	41.25	42.50	43.75	60.00
$1\frac{9}{16}$	36.46	37.76	39.06	40.36	41.67	42.97	44.27	45.57	62.50
$1\frac{5}{8}$	37.92	39.27	40.63	41.98	43.33	44.69	46.04	47.40	65.00
$1\frac{11}{16}$	39.38	40.78	42.19	43.59	45.00	46.41	47.81	49.22	67.50
$1\frac{3}{4}$	40.83	42.29	43.75	45.21	46.67	48.13	49.58	51.04	70.00
$1\frac{13}{16}$	42.29	43.80	45.31	46.82	48.33	49.84	51.35	52.86	72.50
$1\frac{7}{8}$	43.75	45.31	46.88	48.44	50.00	51.56	53.13	54.69	75.00
$1\frac{15}{16}$	45.21	46.82	48.44	50.05	51.67	53.28	54.90	56.51	77.50
2	46.67	48.33	50.00	51.67	53.33	55.00	56.67	58.33	80.00

# WEIGHTS OF FLAT ROLLED IRON PER LINEAL FOOT.

(CONTINUED.)

Thickness in Inches.	9"	9¼"	9½"	9¾"	10"	10¼"	10½"	10¾"	12"
$\frac{1}{16}$	1.88	1.93	1.98	2.03	2.08	2.14	2.19	2.24	2.50
$\frac{1}{8}$	3.75	3.85	3.96	4.06	4.17	4.27	4.38	4.48	5.00
$\frac{3}{16}$	5.63	5.78	5.94	6.09	6.25	6.41	6.56	6.72	7.50
$\frac{1}{2}$	7.50	7.71	7.92	8.13	8.33	8.54	8.75	8.96	10.00
$\frac{5}{16}$	9.38	9.64	9.90	10.16	10.42	10.68	10.94	11.20	12.50
$\frac{3}{8}$	11.25	11.56	11.88	12.19	12.50	12.81	13.13	13.44	15.00
$\frac{7}{16}$	13.13	13.49	13.85	14.22	14.58	14.95	15.31	15.68	17.50
$\frac{1}{2}$	15.00	15.42	15.83	16.25	16.67	17.08	17.50	17.92	20.00
$\frac{9}{16}$	16.88	17.34	17.81	18.28	18.75	19.22	19.69	20.16	22.50
$\frac{5}{8}$	18.75	19.27	19.79	20.31	20.83	21.35	21.88	22.40	25.00
$\frac{11}{16}$	20.63	21.20	21.77	22.34	22.92	23.49	24.06	24.64	27.50
$\frac{3}{4}$	22.50	23.13	23.75	24.38	25.00	25.62	26.25	26.88	30.00
$\frac{13}{16}$	24.38	25.05	25.73	26.41	27.08	27.76	28.44	29.11	32.50
$\frac{7}{8}$	26.25	26.98	27.71	28.44	29.17	29.90	30.63	31.35	35.00
$\frac{15}{16}$	28.13	28.91	29.69	30.47	31.25	32.03	32.81	33.59	37.50
1	30.00	30.83	31.67	32.50	33.33	34.17	35.00	35.83	40.00
$1\frac{1}{16}$	31.88	32.76	33.65	34.53	35.42	36.30	37.19	38.07	42.50
$1\frac{1}{8}$	33.75	34.69	35.63	36.56	37.50	38.44	39.38	40.31	45.00
$1\frac{3}{16}$	35.63	36.61	37.60	38.59	39.58	40.57	41.56	42.55	47.50
$1\frac{1}{2}$	37.50	38.54	39.58	40.63	41.67	42.71	43.75	44.79	50.00
$1\frac{5}{16}$	39.38	40.47	41.56	42.66	43.75	44.84	45.94	47.03	52.50
$1\frac{3}{8}$	41.25	42.40	43.54	44.69	45.83	46.98	48.13	49.27	55.00
$1\frac{7}{16}$	43.13	44.32	45.52	46.72	47.92	49.11	50.31	51.51	57.50
$1\frac{1}{2}$	45.00	46.25	47.50	48.75	50.00	51.25	52.50	53.75	60.00
$1\frac{9}{16}$	46.88	48.18	49.48	50.78	52.08	53.39	54.69	55.99	62.50
$1\frac{5}{8}$	48.75	50.10	51.46	52.81	54.17	55.52	56.88	58.23	65.00
$1\frac{11}{16}$	50.63	52.03	53.44	54.84	56.25	57.66	59.06	60.47	67.50
$1\frac{3}{4}$	52.50	53.96	55.42	56.88	58.33	59.79	61.25	62.71	70.00
$1\frac{13}{16}$	54.38	55.89	57.40	58.91	60.42	61.93	63.44	64.95	72.50
$1\frac{7}{8}$	56.25	57.81	59.38	60.94	62.50	64.06	65.63	67.19	75.00
$1\frac{15}{16}$	58.13	59.74	61.35	62.97	64.58	66.20	67.81	69.43	77.50
2	60.00	61.67	63.33	65.00	66.67	68.33	70.00	71.67	80.00

# WEIGHTS OF FLAT ROLLED IRON PER LINEAL FOOT.

(CONTINUED.)

Thickness in Inches.	11"	11 $\frac{1}{4}$ "	11 $\frac{1}{2}$ "	11 $\frac{3}{4}$ "	12"	12 $\frac{1}{4}$ "	12 $\frac{1}{2}$ "	12 $\frac{3}{4}$ "
$\frac{1}{16}$	2.29	2.34	2.40	2.45	2.50	2.55	2.60	2.66
$\frac{1}{8}$	4.58	4.69	4.79	4.90	5.00	5.10	5.21	5.31
$\frac{3}{16}$	6.88	7.03	7.19	7.34	7.50	7.66	7.81	7.97
$\frac{1}{4}$	9.17	9.38	9.58	9.79	10.00	10.21	10.42	10.63
$\frac{5}{16}$	11.46	11.72	11.98	12.24	12.50	12.76	13.02	13.28
$\frac{3}{8}$	13.75	14.06	14.38	14.69	15.00	15.31	15.63	15.94
$\frac{7}{16}$	16.04	16.41	16.77	17.14	17.50	17.86	18.23	18.59
$\frac{1}{2}$	18.33	18.75	19.17	19.58	20.00	20.42	20.83	21.25
$\frac{9}{16}$	20.63	21.09	21.56	22.03	22.50	22.97	23.44	23.91
$\frac{5}{8}$	22.92	23.44	23.96	24.48	25.00	25.52	26.04	26.56
$\frac{11}{16}$	25.21	25.78	26.35	26.93	27.50	28.07	28.65	29.22
$\frac{3}{4}$	27.50	28.13	28.75	29.38	30.00	30.63	31.25	31.88
$1\frac{1}{16}$	29.79	30.47	31.15	31.82	32.50	33.18	33.85	34.53
$1\frac{1}{8}$	32.08	32.81	33.54	34.27	35.00	35.73	36.46	37.19
$1\frac{3}{8}$	34.38	35.16	35.94	36.72	37.50	38.28	39.06	39.84
$1\frac{1}{2}$	36.67	37.50	38.33	39.17	40.00	40.83	41.67	42.50
$1\frac{5}{8}$	38.96	39.84	40.73	41.61	42.50	43.39	44.27	45.16
$1\frac{3}{4}$	41.25	42.19	43.13	44.06	45.00	45.94	46.88	47.81
$1\frac{7}{8}$	43.54	44.53	45.52	46.51	47.50	48.49	49.48	50.47
$2$	45.83	46.88	47.92	48.96	50.00	51.04	52.08	53.13
$2\frac{1}{16}$	48.13	49.22	50.31	51.41	52.50	53.59	54.69	55.78
$2\frac{1}{8}$	50.42	51.56	52.71	53.85	55.00	56.15	57.29	58.44
$2\frac{3}{8}$	52.71	53.91	55.10	56.30	57.50	58.70	59.90	61.09
$2\frac{1}{2}$	55.00	56.25	57.50	58.75	60.00	61.25	62.50	63.75
$2\frac{5}{8}$	57.29	58.59	59.90	61.20	62.50	63.80	65.10	66.41
$2\frac{3}{4}$	59.58	60.94	62.29	63.65	65.00	66.35	67.71	69.06
$2\frac{7}{8}$	61.88	63.28	64.69	66.09	67.50	68.91	70.31	71.72
$3$	64.17	65.63	67.08	68.54	70.00	71.46	72.92	74.38
$3\frac{1}{16}$	66.46	67.97	69.48	70.99	72.50	74.01	75.52	77.03
$3\frac{1}{8}$	68.75	70.31	71.88	73.44	75.00	76.56	78.13	79.69
$3\frac{3}{8}$	71.04	72.66	74.27	75.89	77.50	79.11	80.73	82.34
$3\frac{1}{2}$	73.33	75.00	76.67	78.33	80.00	81.67	83.33	85.00

The weights for 12" width are repeated on each page to facilitate making the additions necessary to obtain the weights of plates wider than 12". Thus, to find the weight of 15 $\frac{1}{4}$ "  $\times$   $\frac{7}{8}$ ", add the weights to be found in the same line for 3 $\frac{1}{4}$ "  $\times$   $\frac{7}{8}$ " and 12"  $\times$   $\frac{7}{8}$ " = 9.48 + 35.00 = 44.48 lbs.

# WEIGHTS AND AREAS OF SQUARE & ROUND BARS OF WROUGHT IRON

And Circumferences of Round Bars.

One cubic foot weighing 480 lbs.

Thickness or Diameter in Inches.	Weight of ■ Bar One Foot long.	Weight of ● Bar One Foot long.	Area of ■ Bar in sq. inches.	Area of ● Bar in sq. inches.	Circumference of ● Bar in inches.
0					
$\frac{1}{16}$	.013	.010	.0039	.0031	.1963
$\frac{1}{8}$	.052	.041	.0156	.0123	.3927
$\frac{3}{16}$	.117	.092	.0352	.0276	.5890
$\frac{1}{4}$	.208	.164	.0625	.0491	.7854
$\frac{5}{16}$	.326	.256	.0977	.0767	.9817
$\frac{3}{8}$	.469	.368	.1406	.1104	1.1781
$\frac{7}{16}$	.638	.501	.1914	.1503	1.3744
$\frac{1}{2}$	.833	.654	.2500	.1963	1.5708
$\frac{9}{16}$	1.055	.828	.3164	.2485	1.7671
$\frac{5}{8}$	1.302	1.023	.3906	.3068	1.9635
$\frac{11}{16}$	1.576	1.237	.4727	.3712	2.1598
$\frac{3}{4}$	1.875	1.473	.5625	.4418	2.3562
$\frac{13}{16}$	2.201	1.728	.6602	.5185	2.5525
$\frac{7}{8}$	2.552	2.004	.7656	.6013	2.7489
$\frac{15}{16}$	2.930	2.301	.8789	.6903	2.9452
1	3.333	2.618	1.0000	.7854	3.1416
$1\frac{1}{16}$	3.763	2.955	1.1289	.8866	3.3379
$1\frac{1}{8}$	4.219	3.313	1.2656	.9940	3.5343
$1\frac{3}{16}$	4.701	3.692	1.4102	1.1075	3.7306
$1\frac{1}{4}$	5.208	4.091	1.5625	1.2272	3.9270
$1\frac{5}{16}$	5.742	4.510	1.7227	1.3530	4.1233
$1\frac{3}{8}$	6.302	4.950	1.8906	1.4849	4.3197
$1\frac{7}{16}$	6.888	5.410	2.0664	1.6230	4.5160
$1\frac{1}{2}$	7.500	5.890	2.2500	1.7671	4.7124
$1\frac{9}{16}$	8.133	6.392	2.4414	1.9175	4.9087
$1\frac{5}{8}$	8.802	6.913	2.6406	2.0739	5.1051
$1\frac{11}{16}$	9.492	7.455	2.8477	2.2365	5.3014
$1\frac{3}{4}$	10.21	8.018	3.0625	2.4053	5.4978
$1\frac{13}{16}$	10.95	8.601	3.2852	2.5802	5.6941
$1\frac{7}{8}$	11.72	9.204	3.5156	2.7612	5.8905
$1\frac{15}{16}$	12.51	9.828	3.7539	2.9483	6.0868

# SQUARE AND ROUND BARS.

(CONTINUED.)

Thickness or Diameter in Inches.	Weight of ■ Bar One Foot long.	Weight of ● Bar One Foot long.	Area of ■ Bar in sq. inches.	Area of ● Bar in sq. inches.	Circumference of ● Bar in inches.
2	13.33	10.47	4.0000	3.1416	6.2832
$\frac{1}{16}$	14.18	11.14	4.2539	3.3410	6.4795
$\frac{1}{8}$	15.05	11.82	4.5156	3.5466	6.6759
$\frac{3}{16}$	15.95	12.53	4.7852	3.7583	6.8722
$\frac{1}{4}$	16.88	13.25	5.0625	3.9761	7.0686
$\frac{5}{16}$	17.83	14.00	5.3477	4.2000	7.2649
$\frac{3}{8}$	18.80	14.77	5.6406	4.4301	7.4613
$\frac{7}{16}$	19.80	15.55	5.9414	4.6664	7.6576
$\frac{1}{2}$	20.83	16.36	6.2500	4.9087	7.8540
$\frac{9}{16}$	21.89	17.19	6.5664	5.1572	8.0503
$\frac{5}{8}$	22.97	18.04	6.8906	5.4119	8.2467
$\frac{11}{16}$	24.08	18.91	7.2227	5.6727	8.4430
$\frac{3}{4}$	25.21	19.80	7.5625	5.9396	8.6394
$\frac{13}{16}$	26.37	20.71	7.9102	6.2126	8.8357
$\frac{7}{8}$	27.55	21.64	8.2656	6.4918	9.0321
$\frac{15}{16}$	28.76	22.59	8.6289	6.7771	9.2284
3	30.00	23.56	9.0000	7.0686	9.4248
$\frac{1}{16}$	31.26	24.55	9.3789	7.3662	9.6211
$\frac{1}{8}$	32.55	25.57	9.7656	7.6699	9.8175
$\frac{3}{16}$	33.87	26.60	10.160	7.9798	10.014
$\frac{1}{4}$	35.21	27.65	10.563	8.2958	10.210
$\frac{5}{16}$	36.58	28.73	10.973	8.6179	10.407
$\frac{3}{8}$	37.97	29.82	11.391	8.9462	10.603
$\frac{7}{16}$	39.39	30.94	11.816	9.2806	10.799
$\frac{1}{2}$	40.83	32.07	12.250	9.6211	10.996
$\frac{9}{16}$	42.30	33.23	12.691	9.9678	11.192
$\frac{5}{8}$	43.80	34.40	13.141	10.321	11.388
$\frac{11}{16}$	45.33	35.60	13.598	10.680	11.585
$\frac{3}{4}$	46.88	36.82	14.063	11.045	11.781
$\frac{13}{16}$	48.45	38.05	14.535	11.416	11.977
$\frac{7}{8}$	50.05	39.31	15.016	11.793	12.174
$\frac{15}{16}$	51.68	40.59	15.504	12.177	12.370

# SQUARE AND ROUND BARS.

(CONTINUED.)

Thickness or Diameter in Inches.	Weight of ■ Bar One Foot long.	Weight of ● Bar One Foot long.	Area of ■ Bar in sq. inches.	Area of ● Bar in sq. inches.	Circumference of ● Bar in inches.
4	53.33	41.89	16.000	12.566	12.566
$4\frac{1}{16}$	55.01	43.21	16.504	12.962	12.763
$4\frac{1}{8}$	56.72	44.55	17.016	13.364	12.959
$4\frac{3}{16}$	58.45	45.91	17.535	13.772	13.155
$4\frac{1}{2}$	60.21	47.29	18.063	14.186	13.352
$4\frac{5}{16}$	61.99	48.69	18.598	14.607	13.548
$4\frac{3}{8}$	63.80	50.11	19.141	15.033	13.744
$4\frac{7}{16}$	65.64	51.55	19.691	15.466	13.941
$4\frac{1}{2}$	67.50	53.01	20.250	15.904	14.137
$4\frac{9}{16}$	69.39	54.50	20.816	16.349	14.334
$4\frac{5}{8}$	71.30	56.00	21.391	16.800	14.530
$4\frac{11}{16}$	73.24	57.52	21.973	17.257	14.726
$4\frac{3}{4}$	75.21	59.07	22.563	17.721	14.923
$4\frac{13}{16}$	77.20	60.63	23.160	18.190	15.119
$4\frac{7}{8}$	79.22	62.22	23.766	18.665	15.315
$4\frac{15}{16}$	81.26	63.82	24.379	19.147	15.512
5	83.33	65.45	25.000	19.635	15.708
$5\frac{1}{16}$	85.43	67.10	25.629	20.129	15.904
$5\frac{1}{8}$	87.55	68.76	26.266	20.629	16.101
$5\frac{3}{16}$	89.70	70.45	26.910	21.135	16.297
$5\frac{1}{2}$	91.88	72.16	27.563	21.648	16.493
$5\frac{5}{16}$	94.08	73.89	28.223	22.166	16.690
$5\frac{3}{8}$	96.30	75.64	28.891	22.691	16.886
$5\frac{7}{16}$	98.55	77.40	29.566	23.221	17.082
$5\frac{1}{2}$	100.8	79.19	30.250	23.758	17.279
$5\frac{9}{16}$	103.1	81.00	30.941	24.301	17.475
$5\frac{5}{8}$	105.5	82.83	31.641	24.850	17.671
$5\frac{11}{16}$	107.8	84.69	32.348	25.406	17.868
$5\frac{3}{4}$	110.2	86.56	33.063	25.967	18.064
$5\frac{13}{16}$	112.6	88.45	33.785	26.535	18.261
$5\frac{7}{8}$	115.1	90.36	34.516	27.109	18.457
$5\frac{15}{16}$	117.5	92.29	35.254	27.688	18.653

# SQUARE AND ROUND BARS.

(CONTINUED.)

Thickness or Diameter in Inches.	Weight of ■ Bar One Foot long.	Weight of ● Bar One Foot long.	Area of ■ Bar in sq. inches.	Area of ● Bar in sq. inches.	Circumference of ● Bar in inches.
6	120.0	94.25	36.000	28.274	18.850
$\frac{1}{16}$	122.5	96.22	36.754	28.866	19.046
$\frac{1}{8}$	125.1	98.22	37.516	29.465	19.242
$\frac{3}{16}$	127.6	100.2	38.285	30.069	19.439
$\frac{1}{4}$	130.2	102.3	39.063	30.680	19.635
$\frac{5}{16}$	132.8	104.3	39.848	31.296	19.831
$\frac{3}{8}$	135.5	106.4	40.641	31.919	20.028
$\frac{7}{16}$	138.1	108.5	41.441	32.548	20.224
$\frac{1}{2}$	140.8	110.6	42.250	33.183	20.420
$\frac{9}{16}$	143.6	112.7	43.066	33.824	20.617
$\frac{5}{8}$	146.3	114.9	43.891	34.472	20.813
$\frac{11}{16}$	149.1	117.1	44.723	35.125	21.009
$\frac{3}{4}$	151.9	119.3	45.563	35.785	21.206
$\frac{13}{16}$	154.7	121.5	46.410	36.450	21.402
$\frac{7}{8}$	157.6	123.7	47.266	37.122	21.598
$\frac{15}{16}$	160.4	126.0	48.129	37.800	21.795
7	163.3	128.3	49.000	38.485	21.991
$\frac{1}{16}$	166.3	130.6	49.879	39.175	22.187
$\frac{1}{8}$	169.2	132.9	50.766	39.871	22.384
$\frac{3}{16}$	172.2	135.2	51.660	40.574	22.580
$\frac{1}{4}$	175.2	137.6	52.563	41.282	22.777
$\frac{5}{16}$	178.2	140.0	53.473	41.997	22.973
$\frac{3}{8}$	181.3	142.4	54.391	42.718	23.169
$\frac{7}{16}$	184.4	144.8	55.316	43.445	23.366
$\frac{1}{2}$	187.5	147.3	56.250	44.179	23.562
$\frac{9}{16}$	190.6	149.7	57.191	44.918	23.758
$\frac{5}{8}$	193.8	152.2	58.141	45.664	23.955
$\frac{11}{16}$	197.0	154.7	59.098	46.415	24.151
$\frac{3}{4}$	200.2	157.2	60.063	47.173	24.347
$\frac{13}{16}$	203.5	159.8	61.035	47.937	24.544
$\frac{7}{8}$	206.7	162.4	62.016	48.707	24.740
$\frac{15}{16}$	210.0	164.9	63.004	49.483	24.936

# SQUARE AND ROUND BARS.

(CONTINUED.)

Thickness or Diameter in Inches.	Weight of ■ Bar One Foot long.	Weight of ● Bar One Foot long.	Area of ■ Bar in sq. inches.	Area of ● Bar in sq. inches.	Circumference of ● Bar in inches.
8	213.3	167.6	64.000	50.265	25.133
$\frac{1}{16}$	216.7	170.2	65.004	51.054	25.329
$\frac{1}{8}$	220.1	172.8	66.016	51.849	25.525
$\frac{3}{16}$	223.5	175.5	67.035	52.649	25.722
$\frac{1}{4}$	226.9	178.2	68.063	53.456	25.918
$\frac{5}{16}$	230.3	180.9	69.098	54.269	26.114
$\frac{3}{8}$	233.8	183.6	70.141	55.088	26.311
$\frac{7}{16}$	237.3	186.4	71.191	55.914	26.507
$\frac{1}{2}$	240.8	189.2	72.250	56.745	26.704
$\frac{9}{16}$	244.4	191.9	73.316	57.583	26.900
$\frac{5}{8}$	248.0	194.8	74.391	58.426	27.096
$\frac{11}{16}$	251.6	197.6	75.473	59.276	27.293
$\frac{3}{4}$	255.2	200.4	76.563	60.132	27.489
$\frac{13}{16}$	258.9	203.3	77.660	60.994	27.685
$\frac{7}{8}$	262.6	206.2	78.766	61.862	27.882
$\frac{15}{16}$	266.3	209.1	79.879	62.737	28.078
9	270.0	212.1	81.000	63.617	28.274
$\frac{1}{16}$	273.8	215.0	82.129	64.504	28.471
$\frac{1}{8}$	277.6	218.0	83.266	65.397	28.667
$\frac{3}{16}$	281.4	221.0	84.410	66.296	28.863
$\frac{1}{4}$	285.2	224.0	85.563	67.201	29.060
$\frac{5}{16}$	289.1	227.0	86.723	68.112	29.256
$\frac{3}{8}$	293.0	230.1	87.891	69.029	29.452
$\frac{7}{16}$	296.9	233.2	89.066	69.953	29.649
$\frac{1}{2}$	300.8	236.3	90.250	70.882	29.845
$\frac{9}{16}$	304.8	239.4	91.441	71.818	30.041
$\frac{5}{8}$	308.8	242.5	92.641	72.760	30.238
$\frac{11}{16}$	312.8	245.7	93.848	73.708	30.434
$\frac{3}{4}$	316.9	248.9	95.063	74.662	30.631
$\frac{13}{16}$	321.0	252.1	96.285	75.622	30.827
$\frac{7}{8}$	325.1	255.3	97.516	76.589	31.023
$\frac{15}{16}$	329.2	258.5	98.754	77.561	31.220

# SQUARE AND ROUND BARS.

(CONTINUED.)

Thickness or Diameter in Inches.	Weight of ■ Bar One Foot long.	Weight of ● Bar One Foot long.	Area of ■ Bar in sq. inches.	Area of ● Bar in sq. inches.	Circumference of ● Bar in inches.
10	333.3	261.8	100.00	78.540	31.416
$\frac{1}{16}$	337.5	265.1	101.25	79.525	31.612
$\frac{1}{8}$	341.7	268.4	102.52	80.516	31.809
$\frac{3}{16}$	346.0	271.7	103.79	81.513	32.005
$\frac{1}{4}$	350.2	275.1	105.06	82.516	32.201
$\frac{5}{16}$	354.5	278.4	106.35	83.525	32.398
$\frac{3}{8}$	358.8	281.8	107.64	84.541	32.594
$\frac{7}{16}$	363.1	285.2	108.94	85.562	32.790
$\frac{1}{2}$	367.5	288.6	110.25	86.590	32.987
$\frac{9}{16}$	371.9	292.1	111.57	87.624	33.183
$\frac{5}{8}$	376.3	295.5	112.89	88.664	33.379
$\frac{11}{16}$	380.7	299.0	114.22	89.710	33.576
$\frac{3}{4}$	385.2	302.5	115.56	90.763	33.772
$\frac{13}{16}$	389.7	306.1	116.91	91.821	33.968
$\frac{7}{8}$	394.2	309.6	118.27	92.886	34.165
$\frac{15}{16}$	398.8	313.2	119.63	93.956	34.361
11	403.3	316.8	121.00	95.033	34.558
$\frac{1}{16}$	407.9	320.4	122.38	96.116	34.754
$\frac{1}{8}$	412.6	324.0	123.77	97.205	34.950
$\frac{3}{16}$	417.2	327.7	125.16	98.301	35.147
$\frac{1}{4}$	421.9	331.3	126.56	99.402	35.343
$\frac{5}{16}$	426.6	335.0	127.97	100.51	35.539
$\frac{3}{8}$	431.3	338.7	129.39	101.62	35.736
$\frac{7}{16}$	436.1	342.5	130.82	102.74	35.932
$\frac{1}{2}$	440.8	346.2	132.25	103.87	36.128
$\frac{9}{16}$	445.6	350.0	133.69	105.00	36.325
$\frac{5}{8}$	450.5	353.8	135.14	106.14	36.521
$\frac{11}{16}$	455.3	357.6	136.60	107.28	36.717
$\frac{3}{4}$	460.2	361.4	138.06	108.43	36.914
$\frac{13}{16}$	465.1	365.3	139.54	109.59	37.110
$\frac{7}{8}$	470.1	369.2	141.02	110.75	37.306
$\frac{15}{16}$	475.0	373.1	142.50	111.92	37.503

# WEIGHT OF SHEETS OF WROUGHT IRON, STEEL, COPPER AND BRASS. (From Haswell.)

Weights per Square Foot. Thickness by Birmingham Gauge.

No. of Gauge.	Thickness in inches.	Iron.	Steel.	Copper.	Brass.
0000	.454	18.22	18.46	20.57	19.43
000	.425	17.05	17.28	19.25	18.19
00	.38	15.25	15.45	17.21	16.26
0	.34	13.64	13.82	15.40	14.55
1	.3	12.04	12.20	13.59	12.84
2	.284	11.40	11.55	12.87	12.16
3	.259	10.39	10.53	11.73	11.09
4	.238	9.55	9.68	10.78	10.19
5	.22	8.83	8.95	9.97	9.42
6	.203	8.15	8.25	9.20	8.69
7	.18	7.22	7.32	8.15	7.70
8	.165	6.62	6.71	7.47	7.06
9	.148	5.94	6.02	6.70	6.33
10	.134	5.38	5.45	6.07	5.74
11	.12	4.82	4.88	5.44	5.14
12	.109	4.37	4.43	4.94	4.67
13	.095	3.81	3.86	4.30	4.07
14	.083	3.33	3.37	3.76	3.55
15	.072	2.89	2.93	3.26	3.08
16	.065	2.61	2.64	2.94	2.78
17	.058	2.33	2.36	2.63	2.48
18	.049	1.97	1.99	2.22	2.10
19	.042	1.69	1.71	1.90	1.80
20	.035	1.40	1.42	1.59	1.50
21	.032	1.28	1.30	1.45	1.37
22	.028	1.12	1.14	1.27	1.20
23	.025	1.00	1.02	1.13	1.07
24	.022	.883	.895	1.00	.942
25	.02	.803	.813	.906	.856
26	.018	.722	.732	.815	.770
27	.016	.642	.651	.725	.685
28	.014	.562	.569	.634	.599
29	.013	.522	.529	.589	.556
30	.012	.482	.488	.544	.514
31	.01	.401	.407	.453	.428
32	.009	.361	.366	.408	.385
33	.008	.321	.325	.362	.342
34	.007	.281	.285	.317	.300
35	.005	.201	.203	.227	.214

Specific Gravity,	7.704	7.806	8.698	8.218
Weight Cubic Foot,	481.25	487.75	543.6	513.6
" " Inch,	.2787	.2823	.3146	.2972

# WEIGHT OF SHEETS OF WROUGHT IRON, STEEL, COPPER AND BRASS. (From Haswell.)

Weights per Sq. Foot. Thickness by American (Browne & Sharpe's) Gauge.

No. of Gauge.	Thickness in inches.	Iron.	Steel.	Copper.	Brass.
0000	.46	18.46	18.70	20.84	19.69
000	.4096	16.44	16.66	18.56	17.53
00	.3648	14.64	14.83	16.53	15.61
0	.3249	13.04	13.21	14.72	13.90
1	.2893	11.61	11.76	13.11	12.38
2	.2576	10.34	10.48	11.67	11.03
3	.2294	9.21	9.33	10.39	9.82
4	.2043	8.20	8.31	9.26	8.74
5	.1819	7.30	7.40	8.24	7.79
6	.1620	6.50	6.59	7.34	6.93
7	.1443	5.79	5.87	6.54	6.18
8	.1285	5.16	5.22	5.82	5.50
9	.1144	4.59	4.65	5.18	4.90
10	.1019	4.09	4.14	4.62	4.36
11	.0907	3.64	3.69	4.11	3.88
12	.0808	3.24	3.29	3.66	3.46
13	.0720	2.89	2.93	3.26	3.08
14	.0641	2.57	2.61	2.90	2.74
15	.0571	2.29	2.32	2.59	2.44
16	.0508	2.04	2.07	2.30	2.18
17	.0453	1.82	1.84	2.05	1.94
18	.0403	1.62	1.64	1.83	1.73
19	.0359	1.44	1.46	1.63	1.54
20	.0320	1.28	1.30	1.45	1.37
21	.0285	1.14	1.16	1.29	1.22
22	.0253	1.02	1.03	1.15	1.08
23	.0226	.906	.918	1.02	.966
24	.0201	.807	.817	.911	.860
25	.0179	.718	.728	.811	.766
26	.0159	.640	.648	.722	.682
27	.0142	.570	.577	.643	.608
28	.0126	.507	.514	.573	.541
29	.0113	.452	.458	.510	.482
30	.0100	.402	.408	.454	.429
31	.0089	.358	.363	.404	.382
32	.0080	.319	.323	.360	.340
33	.0071	.284	.288	.321	.303
34	.0063	.253	.256	.286	.270
35	.0056	.225	.228	.254	.240

As there are many gauges in use differing from each other, and even the thicknesses of a certain specified gauge, as the Birmingham, are not assumed the same by all manufacturers, orders for sheets and wire should always state the weight per square foot, or the thickness in thousandths of an inch.

# DEARBORN FOUNDRY COMPANY.

## STANDARD CAST SEPARATORS FOR BEAMS.

DESIGNATION OF BEAM.	DISTANCE.		TWO BOLTS.			WEIGHT.	
	Out to Out of Flanges.	Between Flanges.	Size.	Con. to Con.	Length.	Bolts and Nuts.	Separ- ator.
	In.	In.	In.	In.	In	Lbs.	Lbs.
15" No. 1, 50 lbs.	10½	½	¾	7	7	3	17
15" " 2, 67 "	11½	½	¾	7	7¾	3½	17
12" " 3, 42 "	9¾	½	¾	6½	6½	2½	14
10½" " 4, 31½ "	9½	½	¾	6	6½	2½	11
10" " 5, 30 "	9½	½	¾	5	6½	2½	10
9" " 6, 23½ "	8½	½	¾	4½	5¾	2½	9
9" " 7, 45 "	10¾	½	¾	4½	7¼	3	10
8" " 8, 22 "	8½	½	¾	4	5½	1½	8
7" " 9, 18 "	7¾	½	¾	3½	5¼	1½	7
6" " 10, 13½ "	7	½	¾	3	4¾	1½	6
5" " 11, 10 "	6	½	¾	2½	4¾	1½	5

The length of bolt is given from inside of head to end. The weight of one ¾ inch square nut included in the above is 0.27 lb., and of one ⅝ inch square nut 0.15 lb.

# DEARBORN FOUNDRY COMPANY.

## WEIGHT OF ONE HUNDRED BOLTS WITH SQUARE HEADS AND NUTS.

### HOOPES & TOWNSEND'S LIST.

Length under head to point.	DIAMETER OF BOLTS.								
	¼ in.	⅝ in.	¾ in.	7⁄8 in.	½ in.	⅝ in.	¾ in.	¾ in.	1 in.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1½	4.00	7.00	10.50	15.20	22.50	39.50	63.00	.....	.....
1¾	4.35	7.50	11.25	16.30	23.82	41.62	66.00	.....	.....
2	4.75	8.00	12.00	17.40	25.15	43.75	69.00	109.00	163
2¼	5.15	8.50	12.75	18.50	26.47	45.88	72.00	113.25	169
2½	5.50	9.00	13.50	19.60	27.80	48.00	75.00	117.50	174
2¾	5.75	9.50	14.25	20.70	29.12	50.12	78.00	121.75	180
3	6.25	10.00	15.00	21.80	30.45	52.25	81.00	126.00	185
3½	7.00	11.00	16.50	24.00	33.10	56.50	87.00	134.25	196
4	7.75	12.00	18.00	26.20	35.75	60.75	93.10	142.50	207
4½	8.50	13.00	19.50	28.40	38.40	65.00	99.05	151.00	218
5	9.25	14.00	21.00	30.60	41.05	69.25	105.20	159.55	229
5½	10.00	15.00	22.50	32.80	43.70	73.50	111.25	168.00	240
6	10.75	16.00	24.00	35.00	46.35	77.75	117.30	176.60	251
6½	.....	.....	25.50	37.20	49.00	82.00	123.35	185.00	262
7	.....	.....	27.00	39.40	51.65	86.25	129.40	193.65	273
7½	.....	.....	28.50	41.60	54.30	90.50	135.00	202.00	284
8	.....	.....	30.00	43.80	59.60	94.75	141.50	210.70	295
9	.....	.....	.....	46.00	64.90	103.25	153.60	227.75	317
10	.....	.....	.....	48.20	70.20	111.75	165.70	244.80	339
11	.....	.....	.....	50.40	75.50	120.25	177.80	261.85	360
12	.....	.....	.....	52.60	80.80	128.75	189.90	278.90	382
13	.....	.....	.....	.....	86.10	137.25	202.00	295.95	404
14	.....	.....	.....	.....	91.40	145.75	214.10	313.00	426
15	.....	.....	.....	.....	96.70	154.25	226.20	330.05	448
16	.....	.....	.....	.....	102.00	162.75	238.30	347.10	470
17	.....	.....	.....	.....	107.30	171.00	250.40	364.15	492
18	.....	.....	.....	.....	112.60	179.50	262.60	381.20	514
19	.....	.....	.....	.....	117.90	188.00	274.70	398.25	536
20	.....	.....	.....	.....	123.20	206.50	286.80	415.30	558
Per inch additional	1.37	2.13	3.07	4.18	5.45	8.52	12.27	16.70	21.82

## WEIGHTS OF NUTS AND BOLT-HEADS, IN POUNDS.

For calculating the weight of longer bolts.

Diameter of bolt, in inches.....		¼	⅜	½	⅝	¾	¾
Weight of hexagon nut and head	....	0.017	0.057	0.128	0.267	0.43	0.73
Weight of square nut and head	....	0.021	0.069	0.164	0.320	0.55	0.88

Diameter of bolt, in inches.....	1	1¼	1½	1¾	2	2½	3
Weight of hexagon nut and head	1.10	2.14	3.78	5.6	8.75	17	28.8
Weight of square nut and head	1.31	2.56	4.42	7.0	10.50	21	36.4

# WROUGHT IRON WELDED TUBES, FOR GAS, STEAM, OR WATER.

1 1/4 inch and below, Butt Welded; 1 1/2 inch and above, Lap Welded; Proved to 300 lbs. per square inch by Hydraulic pressure.

TABLE OF STANDARD DIMENSIONS, AS MANUFACTURED BY MORRIS, TASKER & CO., LIMITED.

Inside Diameter.	Actual Outside Diameter.	Thick-ness.	Actual Inside Diameter.	Internal Circum-ference.	External Circum-ference.	Length of Pipe per sq. foot of Inside Surface.	Length of Pipe per sq. foot of Outside Surface.	Internal Area.	External Area.	Length of Pipe contain- ing One cubic foot.	Weight per foot of Length.	No. of Threads per inch of Screw.	Taper of Threads per inch of Screw.
Inch.	Inches.	Inches.	Inches.	Inches.	Inches.	Feet.	Feet.	Inches.	Inches.	Feet.	Lbs.		Inch.
1/8	0.405	0.068	0.848	1.272	1.415	9.44	0.0572	0.129	2500.	0.243	27	1 1/2	1 1/2
1/4	0.54	0.088	1.144	1.696	10.50	7.075	0.1041	0.229	1385.	0.422	18	1 1/2	1 1/2
3/8	0.675	0.091	1.552	2.121	7.67	5.657	0.1916	0.358	751.5	0.561	18	1 1/2	1 1/2
1/2	0.84	0.109	1.957	2.652	6.13	4.502	0.3048	0.554	472.4	0.845	14	1 1/2	1 1/2
3/4	1.05	0.113	2.589	3.299	4.635	3.637	0.5333	0.866	270.	1.126	14	1 1/2	1 1/2
1	1.315	0.134	3.292	4.134	3.679	2.903	0.8627	1.357	166.9	1.670	11 1/2	1 1/2	1 1/2
1 1/4	1.66	0.140	4.335	5.215	2.768	2.301	1.496	2.164	96.25	2.258	11 1/2	1 1/2	1 1/2
1 1/2	1.9	0.145	5.061	5.969	2.371	2.01	2.038	2.835	70.65	2.694	11 1/2	1 1/2	1 1/2
2	2.375	0.154	6.494	7.461	1.848	1.611	3.355	4.430	42.36	3.667	11 1/2	1 1/2	1 1/2
2 1/2	2.875	0.204	7.754	9.032	1.547	1.328	4.783	6.491	30.11	5.773	8	1 1/2	1 1/2
3	3.5	0.217	9.636	10.996	1.245	1.091	7.388	9.621	19.49	7.547	8	1 1/2	1 1/2
3 1/2	4.0	0.226	11.146	12.566	1.077	0.955	9.887	12.566	14.56	9.055	8	1 1/2	1 1/2
4	4.5	0.237	12.648	14.137	0.949	0.849	12.730	15.904	11.31	10.728	8	1 1/2	1 1/2
4 1/2	5.	0.247	14.153	15.708	0.848	0.765	15.939	19.635	9.03	12.492	8	1 1/2	1 1/2
5	5.563	0.259	15.849	17.475	0.757	0.629	19.990	24.299	7.20	14.564	8	1 1/2	1 1/2
6	6.625	0.280	19.054	20.813	0.63	0.577	28.889	34.471	4.98	18.767	8	1 1/2	1 1/2
7	7.625	0.301	22.063	23.954	0.544	0.505	38.737	45.663	3.72	23.410	8	1 1/2	1 1/2
8	8.625	0.322	25.076	27.096	0.478	0.444	50.039	58.426	2.88	28.348	8	1 1/2	1 1/2
9	9.688	0.344	28.277	30.433	0.425	0.394	63.633	73.715	2.26	34.077	8	1 1/2	1 1/2
10	10.75	0.366	31.475	33.772	0.381	0.355	78.838	90.762	1.80	40.641	8	1 1/2	1 1/2

# DEARBORN FOUNDRY COMPANY.

## DECIMALS OF AN INCH FOR EACH $\frac{1}{64}$ th.

$\frac{1}{32}$ ds.	$\frac{1}{64}$ ths.	Decimal.	Fraction	$\frac{1}{32}$ ds.	$\frac{1}{64}$ ths.	Decimal.	Fraction
	1	.015625			33	.515625	
1	2	.03125		17	34	.53125	
	3	.046875			35	.546875	
2	4	.0625	1-16	18	36	.5625	9-16
	5	.078125			37	.578125	
3	6	.09375		19	38	.59375	
	7	.109375			39	.609375	
4	8	.125	1-8	20	40	.625	5-8
	9	.140625			41	.640625	
5	10	.15625		21	42	.65625	
	11	.171875			43	.671875	
6	12	.1875	3-16	22	44	.6875	11-16
	13	.203125			45	.703125	
7	14	.21875		23	46	.71875	
	15	.234375			47	.734375	
8	16	.25	1-4	24	48	.75	3-4
	17	.265625			49	.765625	
9	18	.28125		25	50	.78125	
	19	.296875			51	.796875	
10	20	.3125	5-16	26	52	.8125	13-16
	21	.328125			53	.828125	
11	22	.34375		27	54	.84375	
	23	.359375			55	.859375	
12	24	.375	3-8	28	56	.875	7-8
	25	.390625			57	.890625	
13	26	.40625		29	58	.90625	
	27	.421875			59	.921875	
14	28	.4375	7-16	30	60	.9375	15-16
	29	.453125			61	.953125	
15	30	.46875		31	62	.96875	
	31	.484375			63	.984375	
16	32	.5	1-2	32	64	1.	1

# DECIMAL PARTS OF A FOOT FOR EACH $\frac{1}{16}$ th OF AN INCH.

Inch.	0"	1"	2"	3"	4"	5"	6"	7"	8"	9"	10"	11"
0	0	.0833	.1667	.2500	.3333	.4167	.5000	.5833	.6667	.7500	.8333	.9167
$\frac{1}{16}$	.0013	.0846	.1680	.2513	.3346	.4180	.5013	.5846	.6680	.7513	.8346	.9180
$\frac{2}{16}$	.0026	.0859	.1693	.2526	.3359	.4193	.5026	.5859	.6693	.7526	.8359	.9193
$\frac{3}{16}$	.0039	.0872	.1706	.2539	.3372	.4206	.5039	.5872	.6706	.7539	.8372	.9206
$\frac{4}{16}$	.0052	.0885	.1719	.2552	.3385	.4219	.5052	.5885	.6719	.7552	.8385	.9219
$\frac{5}{16}$	.0065	.0898	.1732	.2565	.3398	.4232	.5065	.5898	.6732	.7565	.8398	.9232
$\frac{6}{16}$	.0078	.0911	.1745	.2578	.3411	.4245	.5078	.5911	.6745	.7578	.8411	.9245
$\frac{7}{16}$	.0091	.0924	.1758	.2591	.3424	.4258	.5091	.5924	.6758	.7591	.8424	.9258
$\frac{8}{16}$	.0104	.0937	.1771	.2604	.3437	.4271	.5104	.5937	.6771	.7604	.8437	.9271
$\frac{9}{16}$	.0117	.0951	.1784	.2617	.3451	.4284	.5117	.5951	.6784	.7617	.8451	.9284
$\frac{10}{16}$	.0130	.0964	.1797	.2630	.3464	.4297	.5130	.5964	.6797	.7630	.8464	.9297
$\frac{11}{16}$	.0143	.0977	.1810	.2643	.3477	.4310	.5143	.5977	.6810	.7643	.8477	.9310
$\frac{12}{16}$	.0156	.0990	.1823	.2656	.3490	.4323	.5156	.5990	.6823	.7656	.8490	.9323
$\frac{13}{16}$	.0169	.1003	.1836	.2669	.3503	.4336	.5169	.6003	.6836	.7669	.8503	.9336
$\frac{14}{16}$	.0182	.1016	.1849	.2682	.3516	.4349	.5182	.6016	.6849	.7682	.8516	.9349
$\frac{15}{16}$	.0195	.1029	.1862	.2695	.3529	.4362	.5195	.6029	.6862	.7695	.8529	.9362
$\frac{16}{16}$	.0208	.1042	.1875	.2708	.3542	.4375	.5208	.6042	.6875	.7708	.8542	.9375

# DECIMAL PARTS OF A FOOT FOR EACH $\frac{1}{16}$ th OF AN INCH—Continued.

Inch.	0"	1"	2"	3"	4"	5"	6"	7"	8"	9"	10"	11"
$\frac{17}{16}$ $\frac{9}{16}$ $\frac{5}{16}$ $\frac{1}{16}$	.0221 .0234 .0247 .0260	.1055 .1068 .1081 .1094	.1888 .1901 .1914 .1927	.2721 .2734 .2747 .2760	.3555 .3568 .3581 .3594	.4388 .4401 .4414 .4427	.5221 .5234 .5247 .5260	.6055 .6068 .6081 .6094	.6888 .6901 .6914 .6927	.7721 .7734 .7747 .7760	.8555 .8568 .8581 .8594	.9388 .9401 .9414 .9427
$\frac{1}{8}$ $\frac{1}{16}$ $\frac{1}{32}$ $\frac{1}{64}$	.0273 .0286 .0299 .0312	.1107 .1120 .1133 .1146	.1940 .1953 .1966 .1979	.2773 .2786 .2799 .2812	.3607 .3620 .3633 .3646	.4440 .4453 .4466 .4479	.5273 .5286 .5299 .5312	.6107 .6120 .6133 .6146	.6940 .6953 .6966 .6979	.7773 .7786 .7799 .7812	.8607 .8620 .8633 .8646	.9440 .9453 .9466 .9479
$\frac{3}{16}$ $\frac{1}{8}$ $\frac{1}{16}$ $\frac{1}{32}$ $\frac{1}{64}$	.0326 .0339 .0352 .0365	.1159 .1172 .1185 .1198	.1992 .2005 .2018 .2031	.2826 .2839 .2852 .2865	.3659 .3672 .3685 .3698	.4492 .4505 .4518 .4531	.5326 .5339 .5352 .5365	.6159 .6172 .6185 .6198	.6992 .7005 .7018 .7031	.7826 .7839 .7852 .7865	.8659 .8672 .8685 .8698	.9492 .9505 .9518 .9531
$\frac{1}{4}$ $\frac{3}{16}$ $\frac{1}{8}$ $\frac{1}{16}$ $\frac{1}{32}$ $\frac{1}{64}$	.0378 .0391 .0404 .0417	.1211 .1224 .1237 .1250	.2044 .2057 .2070 .2083	.2878 .2891 .2904 .2917	.3711 .3724 .3737 .3750	.4544 .4557 .4570 .4583	.5378 .5391 .5404 .5417	.6211 .6224 .6237 .6250	.7044 .7057 .7070 .7083	.7878 .7891 .7904 .7917	.8711 .8724 .8737 .8750	.9544 .9557 .9570 .9583

DECIMAL PARTS OF A FOOT FOR EACH  $\frac{1}{4}$ th OF AN INCH—Continued.

Inch.	0"	1"	2"	3"	4"	5"	6"	7"	8"	9"	10"	11"
$\frac{1}{16}$	.0430 .0443 .0456 .0469	.1263 .1276 .1289 .1302	.2096 .2109 .2122 .2135	.2930 .2943 .2956 .2969	.3763 .3776 .3789 .3802	.4596 .4609 .4622 .4635	.5430 .5443 .5456 .5469	.6263 .6276 .6289 .6302	.7096 .7109 .7122 .7135	.7930 .7943 .7956 .7969	.8763 .8776 .8789 .8802	.9596 .9609 .9622 .9635
$\frac{1}{8}$	.0482 .0495 .0508 .0521	.1315 .1328 .1341 .1354	.2148 .2161 .2174 .2188	.2982 .2995 .3008 .3021	.3815 .3828 .3841 .3854	.4648 .4661 .4674 .4688	.5482 .5495 .5508 .5521	.6315 .6328 .6341 .6354	.7148 .7161 .7174 .7188	.7982 .7995 .8008 .8021	.8815 .8828 .8841 .8854	.9648 .9661 .9674 .9688
$\frac{3}{16}$	.0534 .0547 .0560 .0573	.1367 .1380 .1393 .1406	.2201 .2214 .2227 .2240	.3034 .3047 .3060 .3073	.3867 .3880 .3893 .3906	.4701 .4714 .4727 .4740	.5534 .5547 .5560 .5573	.6367 .6380 .6393 .6406	.7201 .7214 .7227 .7240	.8034 .8047 .8060 .8073	.8867 .8880 .8893 .8906	.9701 .9714 .9727 .9740
$\frac{1}{4}$	.0586 .0599 .0612 .0625	.1419 .1432 .1445 .1458	.2253 .2266 .2279 .2292	.3086 .3099 .3112 .3125	.3919 .3932 .3945 .3958	.4753 .4766 .4779 .4792	.5586 .5599 .5612 .5625	.6419 .6432 .6445 .6458	.7253 .7266 .7279 .7292	.8086 .8099 .8112 .8125	.8919 .8932 .8945 .8958	.9753 .9766 .9779 .9792

# DECIMAL PARTS OF A FOOT FOR EACH $\frac{1}{16}$ th OF AN INCH—Continued.

Inch.	0"	1"	2"	3"	4"	5"	6"	7"	8"	9"	10"	11"
$\frac{1}{16}$	.0638 .0651 .0664 .0677	.1471 .1484 .1497 .1510	.2305 .2318 .2331 .2344	.3138 .3151 .3164 .3177	.3971 .3984 .3997 .4010	.4805 .4818 .4831 .4844	.5638 .5651 .5664 .5677	.6471 .6484 .6497 .6510	.7305 .7318 .7331 .7344	.8138 .8151 .8164 .8177	.8971 .8984 .8997 .9010	.9805 .9818 .9831 .9844
$\frac{1}{8}$	.0690 .0703 .0716 .0729	.1523 .1536 .1549 .1562	.2357 .2370 .2383 .2396	.3190 .3203 .3216 .3229	.4023 .4036 .4049 .4062	.4857 .4870 .4883 .4896	.5690 .5703 .5716 .5729	.6523 .6536 .6549 .6562	.7357 .7370 .7383 .7396	.8190 .8203 .8216 .8229	.9023 .9036 .9049 .9062	.9857 .9870 .9883 .9896
$\frac{3}{16}$	.0742 .0755 .0768 .0781	.1576 .1589 .1602 .1615	.2409 .2422 .2435 .2448	.3242 .3255 .3268 .3281	.4076 .4089 .4102 .4115	.4909 .4922 .4935 .4948	.5742 .5755 .5768 .5781	.6576 .6589 .6602 .6615	.7409 .7422 .7435 .7448	.8242 .8255 .8268 .8281	.9076 .9089 .9102 .9115	.9909 .9922 .9935 .9948
$\frac{1}{4}$	.0794 .0807 .0820	.1628 .1641 .1654	.2461 .2474 .2487	.3294 .3307 .3320	.4128 .4141 .4154	.4961 .4974 .4987	.5794 .5807 .5820	.6628 .6641 .6654	.7461 .7474 .7487	.8294 .8307 .8320	.9128 .9141 .9154	.9961 .9974 .9987 1.0000

DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

**TABLE SHOWING SAFE UNIFORMLY DISTRIBUTED LOAD IN POUNDS  
OF WROUGHT ANGLE IRON WITH EQUAL LEGS. (See Sections.)**

Size.	6 x 6	4 x 4	3½ x 3½	3½ x 3¼	3 x 3	2½ x 2½	2½ x 2¼	2 x 2	1½ x 1½	1½ x 1¼	1½ x 1½	1½	1
Weight per ft.	19.2 lbs.	9.5 lbs.	8.3 lbs.	7.7 lbs.	5.9 lbs.	5.4 lbs.	4.9 lbs.	3.5 lbs.	3.1 lbs.	2.1 lbs.	1.8 lbs.	1.0 lbs.	0.8 lbs.
Length in feet.	1												
1	36800	12000	9600	7900	5700	4700	3800	2600	2000	1120	800	400	240
2	18400	6000	4800	3950	2850	2350	1900	1300	1000	560	400	200	120
3	12266	4000	3200	2633	1900	1566	1266	866	666	373	266	133	80
4	9200	3000	2400	1975	1425	1175	950	650	500	280	200	100	60
5	7360	2400	1920	1580	1140	940	760	520	400	224	160	80	
6	6133	2000	1600	1316	950	783	633	433	333	186	133		
7	5257	1712	1371	1128	813	672	542	371	285				
8	4600	1500	1200	987	712	587	475	325	250				
9	4088	1333	1066	877	633	522	422						
10	3680	1200	960	790	570	470	380						
11	3345	1090	872	717	517								
12	3066	1000	800	658	475								

NOTE.—Nearly all the above Angle Iron can be rolled with greater thickness if desired, and the strength would increase in proportion. The above values are for the lighter weights of the Angle Iron.

# DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

## TABLE SHOWING SAFE UNIFORMLY DISTRIBUTED LOAD, IN POUNDS, OF WROUGHT ANGLE IRON WITH UNEQUAL LEGS. (See Sections.)

Size.	6 x 4	5 x 3½	4½ x 3	4 x 3	3½ x 3	3½ x 1½	3 x 2½	3 x 2	The Section shows the way in which Angle Irons are used. Table giving strength of angle each way, viz:	
Weight per ft.	14.0 lbs.	10.2 lbs.	9.0 lbs.	7.0 lbs.	5.2 lbs.	4.0 lbs.	4.375 lbs.	4.0 lbs.		
Length in ft.										
1	30680	18353	14580	9850	6180	5515	4490	4334		L Greatest Depth of Angle. Smallest " " "
2	14750	9651	7020	5871	4710	1148	3233	2080		L Greatest " " "
	15340	9176	7290	4925	3090	2757	2245	2167		L Smallest " " "
4	7375	4825	3510	2935	2355	574	1616	1040		L Greatest " " "
	7670	4588	3645	2462	1545	1378	1122	1083		L Smallest " " "
6	3687	2412	1755	1467	1177	287	808	520		L Greatest " " "
	5113	3058	2430	1642	1030	912	748	722		L Smallest " " "
8	2458	1608	1170	978	785	191	538	347	L Greatest " " "	
	3835	2294	1822	1231	772	689	561	541	L Smallest " " "	
10	1843	1206	877	733	588	143	404	260	L Greatest " " "	
	3068	1835	1458	985	618	551	449	433	L Smallest " " "	
	1475	965	702	587	471	114	323	208	L Greatest " " "	

NOTE.—Nearly all of the above Angle Iron can be rolled with greater thickness if desired, and the strength would increase in proportion. The above values are for the lighter weights of the Angle Iron.

# DEARBORN FOUNDRY COMPANY, CHICAGO, ILL.

## TABLE SHOWING SAFE UNIFORMLY DISTRIBUTED LOAD IN POUNDS OF WROUGHT TEE IRON. (See Sections).

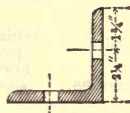
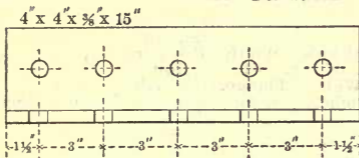
Size.	4 x 4	3½ x 3½	3 x 3	2½ x 2½	2 x 2	5 x 2½	3 x 2	2 x 1½	2¼ x 1½	2 x 1	1½ x 1
Weight per foot	12.5 lbs.	9.6 lbs.	7.0 lbs.	5.0 lbs.	3.13 lbs.	11.70 lbs.	4.8 lbs.	3.0 lbs.	2.4 lbs.	2.15 lbs.	1.86 lbs.
Length in feet.											
1	15800	10550	6680	3850	1970	6344	2540	1355	604	457	421
2	7900	5275	3340	1925	985	3172	1270	677	302	228	210
3	5266	3516	2226	1283	656	2114	846	451	201	152	140
4	3950	2637	1670	962	492	1586	635	338	151	114	105
5	3160	2110	1336	770	394	1268	508	271	120	91	84
6	2633	1758	1113	641	328	1057	423	225	100	76	70
7	2237	1507	954	550	281	906	363	193	86	65	60
8	1975	1318	835	481	246	793	318	169	75	57	52
9	1755	1172	742	427	219	705	282	150	67	.....	.....
10	1580	1055	668	385	197	634	254	135	60	.....	.....
11	1436	959	607	350	179	576	230	123	.....	.....	.....
12	1316	879	556	320	164	528	211	112	.....	.....	.....

NOTE.—Nearly all the above Tee Iron can be rolled with greater thickness if desired, and the strength would increase in proportion. The above values are for the lighter weights of the Tee Iron.

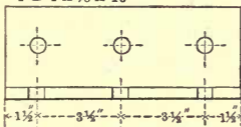
# DEARBORN FOUNDRY COMPANY.

Standard Connection Angles  
for Beams and Channels.

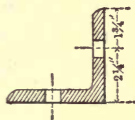
For 20" Beam



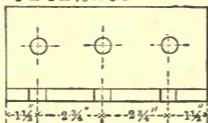
4" x 4" x 3/8" x 10"



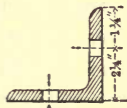
15" Beam



4" x 4" x 3/8" x 8"

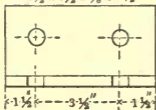


12" Beam

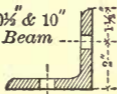


All Holes 7/8 diam.  
for 3/4 Bolts

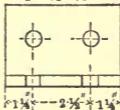
3 1/2" x 3 1/2" x 3/8" x 6 1/2"



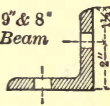
10 1/2" & 10"  
Beam



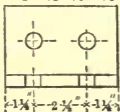
3 1/2" x 3 1/2" x 3/8" x 5"



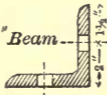
9" & 8"  
Beam



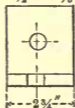
3 1/2" x 3 1/2" x 3/8" x 4 1/4"



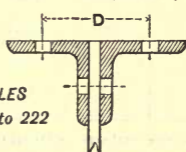
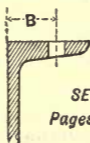
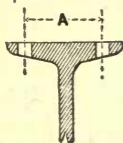
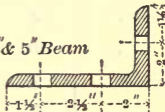
7" Beam



3 1/2" x 6" x 3/8" x 2 1/4"



6" & 5" Beam



SEE TABLES  
Pages 220 to 222

# DEARBORN FOUNDRY COMPANY.

## STANDARD RIVET OR BOLT HOLES THROUGH FLANGES.

### Iron I Beams.

Size. Inches.	Weight per Foot. Lbs.	Thickn's of Web. Inches.	Width of Flange. Inches.	Size of Rivet or Bolt through Flange. Inches.	A Inches.	D Inches.
15	80	0.76	6.08	$\frac{3}{4}$	$3\frac{7}{16}$	$5\frac{1}{4}$
15	60	0.57	5.45	$\frac{3}{4}$	3	$5\frac{1}{16}$
15	50	0.49	5.05	$\frac{3}{4}$	$2\frac{3}{4}$	5
12	$56\frac{1}{2}$	0.78	5.16	$\frac{3}{4}$	3	$5\frac{5}{16}$
12	42	0.51	4.63	$\frac{3}{4}$	$2\frac{9}{16}$	5
$10\frac{1}{2}$	40	0.55	4.80	$\frac{3}{4}$	$2\frac{11}{16}$	$4\frac{9}{16}$
$10\frac{1}{2}$	$31\frac{1}{2}$	0.41	4.53	$\frac{3}{4}$	$2\frac{1}{2}$	$4\frac{7}{16}$
10	36	0.44	4.50	$\frac{3}{4}$	$2\frac{1}{2}$	$4\frac{7}{16}$
10	30	0.37	4.31	$\frac{3}{4}$	$2\frac{5}{16}$	$4\frac{3}{8}$
9	45	0.52	5.02	$\frac{3}{4}$	$2\frac{3}{4}$	$4\frac{1}{2}$
9	$38\frac{1}{2}$	0.46	4.71	$\frac{3}{4}$	$2\frac{5}{8}$	$4\frac{7}{16}$
9	$28\frac{1}{2}$	0.40	4.16	$\frac{5}{8}$	$2\frac{1}{4}$	$4\frac{3}{8}$
9	$23\frac{1}{2}$	0.34	3.96	$\frac{5}{8}$	$2\frac{1}{8}$	$4\frac{3}{8}$
8	35	0.35	4.60	$\frac{3}{4}$	$2\frac{1}{2}$	$4\frac{3}{8}$
8	27	0.41	4.09	$\frac{5}{8}$	$2\frac{1}{4}$	$4\frac{7}{16}$
8	$21\frac{1}{2}$	0.33	3.71	$\frac{5}{8}$	2	$4\frac{5}{16}$
7	22	0.38	3.82	$\frac{5}{8}$	$2\frac{1}{8}$	$4\frac{3}{8}$
7	18	0.26	3.52	$\frac{5}{8}$	$1\frac{7}{8}$	$4\frac{1}{4}$
6	16	0.25	3.44	$\frac{5}{8}$	$1\frac{13}{16}$	$4\frac{1}{4}$
6	$13\frac{1}{2}$	0.24	3.24	$\frac{1}{2}$	$1\frac{3}{4}$	$4\frac{1}{4}$
5	12	0.28	2.96	$\frac{1}{2}$	$1\frac{5}{8}$	$4\frac{5}{16}$
5	10	0.23	2.85	$\frac{1}{2}$	$1\frac{9}{16}$	$4\frac{1}{4}$
4	7	0.18	2.50	$\frac{1}{2}$	$1\frac{5}{16}$	$4\frac{3}{16}$

NOTE.—See cuts at bottom of page 219 for letters A and D in tables.

# DEARBORN FOUNDRY COMPANY.

## STANDARD RIVET OR BOLT HOLES THROUGH FLANGES.

### Steel I Beams.

Size. Inches.	Weight per Foot. Lbs.	Thickn's of Web. Inches.	Width of Flange. Inches.	Size of Rivet or Bolt through Flange. Inches.	A Inches.	D Inches.
20	80	0.60	7.00	$\frac{3}{4}$	$3\frac{1}{8}$	$5\frac{1}{8}$
20	64	0.50	6.25	$\frac{3}{4}$	$3\frac{3}{8}$	5
15	50	0.45	5.75	$\frac{3}{4}$	$3\frac{1}{8}$	$4\frac{1}{8}$
15	41	0.40	5.50	$\frac{3}{4}$	$2\frac{1}{8}$	$4\frac{3}{8}$
12	40	0.39	5.50	$\frac{3}{4}$	$2\frac{1}{8}$	$4\frac{3}{8}$
12	32	0.35	5.25	$\frac{3}{4}$	$2\frac{1}{8}$	$4\frac{3}{8}$
10	33	0.37	5.00	$\frac{3}{4}$	$2\frac{1}{8}$	$4\frac{3}{8}$
10	$25\frac{1}{2}$	0.32	4.75	$\frac{3}{4}$	$2\frac{9}{16}$	$4\frac{5}{8}$
9	27	0.31	4.75	$\frac{3}{4}$	$2\frac{9}{16}$	$4\frac{5}{8}$
9	21	0.27	4.50	$\frac{3}{4}$	$2\frac{3}{8}$	$4\frac{1}{4}$
8	22	0.27	4.50	$\frac{3}{4}$	$2\frac{3}{8}$	$4\frac{1}{4}$
8	18	0.25	4.25	$\frac{3}{4}$	$2\frac{1}{4}$	$4\frac{1}{4}$
7	20	0.27	4.25	$\frac{3}{4}$	$2\frac{1}{4}$	$4\frac{1}{4}$
7	$15\frac{1}{2}$	0.23	4.00	$\frac{5}{8}$	$2\frac{1}{8}$	$4\frac{1}{4}$
6	16	0.26	3.625	$\frac{5}{8}$	$1\frac{5}{8}$	$4\frac{1}{4}$
6	13	0.23	3.50	$\frac{5}{8}$	$1\frac{7}{8}$	$4\frac{1}{4}$
5	13	0.26	3.13	$\frac{1}{2}$	$1\frac{1}{8}$	$4\frac{1}{4}$
5	10	0.22	3.00	$\frac{1}{2}$	$1\frac{5}{8}$	$4\frac{1}{4}$
4	10	0.24	2.75	$\frac{1}{2}$	$1\frac{1}{2}$	$4\frac{1}{4}$
4	$7\frac{1}{2}$	0.20	2.625	$\frac{1}{2}$	$1\frac{7}{8}$	$4\frac{3}{8}$

NOTE.—See cuts at bottom of page 219 for letters A and D in table.

# DEARBORN FOUNDRY COMPANY.

## STANDARD RIVET OR BOLT HOLES THROUGH FLANGES.

### Channels.

Size. Inches.	Weight per Foot. Lbs.	Thickn's of Web. Inches.	Width of Flange. Inches.	Size of Rivet or Bolt through Flange. Inches.	B Inches.	D Inches.
15	40	0.53	3.53	$\frac{3}{4}$	2	5
12	30	0.47	2.73	$\frac{3}{4}$	$1\frac{5}{8}$	5
12	23	0.31	3.00	$\frac{3}{4}$	$1\frac{11}{16}$	$4\frac{13}{16}$
12	20	0.32	3.01	$\frac{3}{4}$	$1\frac{11}{16}$	$4\frac{13}{16}$
10	20	0.30	2.50	$\frac{3}{4}$	$1\frac{7}{8}$	$4\frac{5}{8}$
10	$17\frac{1}{2}$	0.29	2.48	$\frac{3}{4}$	$1\frac{7}{8}$	$4\frac{5}{8}$
10	16	0.32	2.51	$\frac{3}{4}$	$1\frac{7}{8}$	$4\frac{5}{8}$
9	18	0.31	2.45	$\frac{3}{4}$	$1\frac{3}{8}$	$4\frac{5}{8}$
9	16	0.30	2.43	$\frac{3}{4}$	$1\frac{3}{8}$	$4\frac{5}{8}$
9	$14\frac{1}{2}$	0.32	2.52	$\frac{3}{4}$	$1\frac{7}{8}$	$4\frac{5}{8}$
8	16	0.31	2.35	$\frac{3}{4}$	$1\frac{5}{8}$	$4\frac{5}{8}$
8	14	0.31	2.25	$\frac{3}{4}$	$1\frac{1}{4}$	$4\frac{5}{8}$
8	10	0.21	2.01	$\frac{5}{8}$	$1\frac{1}{8}$	$4\frac{3}{8}$
7	14	0.31	2.35	$\frac{3}{4}$	$1\frac{5}{8}$	$4\frac{5}{8}$
7	$10\frac{1}{2}$	0.24	1.94	$\frac{5}{8}$	$1\frac{1}{8}$	$4\frac{1}{4}$
7	$8\frac{1}{2}$	0.19	1.89	$\frac{5}{8}$	$1\frac{1}{8}$	$4\frac{3}{8}$
6	10	0.22	2.04	$\frac{5}{8}$	$1\frac{1}{8}$	$4\frac{1}{4}$
6	$7\frac{1}{2}$	0.20	1.76	$\frac{5}{8}$	1	$4\frac{3}{8}$
5	9	0.26	1.94	$\frac{5}{8}$	$1\frac{1}{8}$	$4\frac{1}{4}$
5	$6\frac{1}{2}$	0.18	1.68	$\frac{5}{8}$	$1\frac{5}{16}$	$4\frac{3}{8}$
4	7	0.24	1.74	$\frac{1}{2}$	1	$4\frac{1}{4}$
4	5	0.17	1.49	$\frac{1}{2}$	$1\frac{3}{16}$	$4\frac{3}{8}$

NOTE.—See cuts at bottom of page 219 for letters B and D in table.

**DEARBORN FOUNDRY COMPANY.**

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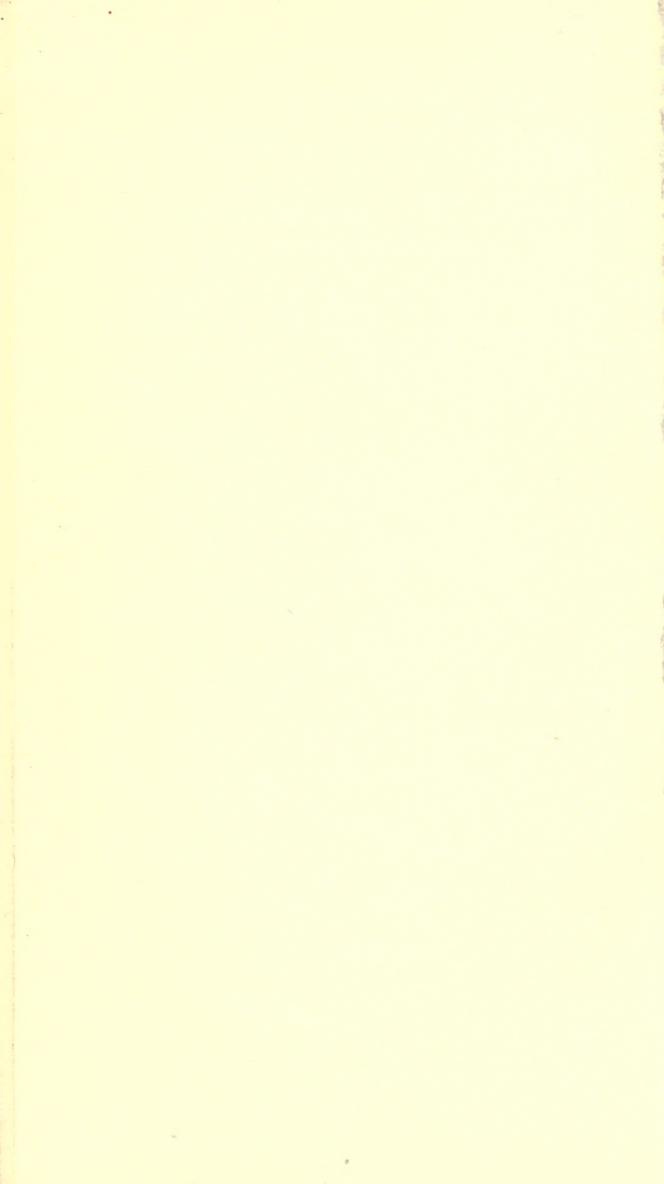
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